EMPLOYMENT AND EARNINGS IN LINN COUNTY, OREGON

A POST - WAR STUDY

Preliminary - Being Revised.

Farm Security Administration

Region XI

August, 1942

EMPLOYMENT AND EARNINGS IN LINN COUNTY, OREGON,

A POST-WAR STUDY

Our national life cannot be subdivided. No part can thrive separately. Full employment in Oregon gives jobs to workers in Michigan. Fair wages in Carolina's textile mills make security for Wisconsin farmers. A novel depicting life and problems in California stirs the emotions of New England people.

Local planning must consider the nation as a whole. It then becomes an important tool in democratic government. Ideas and policies developed by national leaders may be combined, by this method, with the knowledge and experience of local people. Practical, effective plans of action may be drawn. Leaders and people may learn from each other.

While we are at war the objective is to win the war. When peace comes, full employment will be the goal in every community. Our government will be judged by its ability to mould a post-war world that fulfills this basic need. The best safeguard to democracy in this period will be an informed public, acquainted with the depression problem, ready to help their leaders act effectively.

This exploratory analysis of an Oregon community is dedicated to a broader conception of local planning.

Released by
Program and Reports Division
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INTRODUCTION

This report is the result of a study of the economy of Linn County, Oregon with special reference to post-war employment. It was assumed as a basic principle that the level of living of the vast majority of people in the United States will have to be raised very appreciably in order to create a market for the goods and services which will be produced if there is to be full employment after the war. For a while a portion of the 20,000,000 or more men and women now engaged in activities supported by war needs will be employed in supplying both capital and consumer goods and services to people in devastated countries and countries not yet fully developed. Others will be employed in replacing consumer goods at home where supplies have been depleted by priorities during the war period. There will be a need for retooling and remodeling of factories now geared to war effort, and the supply of labor will be curtailed, to a degree, by the withdrawal of some men and women from competitive employment when the war pressure is over. But after granting full weight to the influences of these forces which may create a temporary wave of peace-time employment, there will still remain the need for a drastic rise in the level of living if serious unemployment is to be avoided in the post-war period.

No extended argument is needed to sustain this thesis. It is axiomatic that if labor now employed in war activity is not re-employed in domestic production, when peace time comes, many millions of laborers will be idle. If they are employed, the supply of consumer goods and services will be increased, and the level of living will have to rise above any point reached in past experience if the increased supply is to find a market. If, on the other hand, a large number of laborers are idle, their ability to buy will be curtailed, consumption will drop, factory owners and business concerns now supported in part by the consumer demands of this vast army of war workers will face a declining market and depression will again hold the field.

A basic and very reassuring fact, however, stands out as a planning guide and it is this: a reasonable satisfaction of consumer needs in the United States will call for the full employment of all available labor. This is clearly indicated by income statistics. If in 1935-36, the 35,237,909 families and single individuals who received $2,500 per year or less had had their incomes raised to that figure, the national income would have exceeded $110,000,000,000. That is $51,165,442,000 more than the actual national income in that period and some $15,000,000,000 more than the war-time expenditures in 1941, when the level of employment was relatively high. Many studies by competent investigators fully sustain the conclusion that consumer needs in the United States are great enough to require full post-war employment of the men and women now engaged in war activities.

What would a normal individual do under similar circumstances—where he is in need of many things, has time on his hands and has ample resources at his command? Quite obviously he would use his spare energy in producing the things he wants. The query naturally arises as to why a society facing like conditions cannot act in the same logical manner.

Linn County is a community not unlike other counties in the Northwest or in the Nation. Yet in 1940 nearly 20 per cent of the urban labor force were unemployed or on emergency relief work. Another 14 per cent were underemployed and were seeking to supplement an inadequate wage income by farming on the side. This latter group of part-time farmers, who on the average spent two-thirds of the normal working days in urban employment, accounted for nearly one-third of all farmers in the county. Another third of the farmers were working about half of their time, with inadequate equipment on inadequate-sized farms. Yet the needs of the people of the county for ordinary goods and services of modern society were sufficient to employ fully the total working force plus many hundreds in production centers outside the county.

Furthermore, a recent migration of timber crews from logged-off areas in counties where the timber has already been harvested is moving into the forest of Linn County to repeat the over-cutting which will do as it has done elsewhere—create a mush-room growth only to leave tax-reverted, stump-covered hills for the following generations to develop and conserve at public expense.

The present study is an attempt to show how the unemployed and the ineffectively utilized human resources of Linn County can be fully employed, (1) in providing the goods and services which the people of the county and other areas would like to have, and (2) in developing and conserving both the human and the natural resources of the area.

The central theme of this analysis is that effective post-war planning and action must deal with all basic problems affecting income and employment, whether these problems are old or new. An enlarged WPA program which offers subsistence wages to dis-employed people will not meet the need. When 15,000,000 or more families and single workers in the United States live at a subsistence level due to unemployment, under-employment and ineffective employment, a vigorous national economic life is impossible. Full employment is a primary goal of any adequate economic order. A relatively high level of living is logical and necessary.

Measures which would be needed in Linn County, Oregon, to attain full employment in agriculture and forestry are rather drastic. More than a third of the 3,295 people classed in 1940 as farmers might be displaced if adequate land resources were placed at the disposal of the remainder. Public ownership or control of forest

land might be necessary if a full program of development and conservation of national resources were carried out.

The seemingly drastic character of such an adjustment in agriculture is tempered, however, by the fact that two-thirds of the family heads involved are primarily urban workers who, in 1940, were employed in town for an average of 166 days per year. It is further tempered by the fact that there were over 500 farm operators over 65 years old, who might well retire. Furthermore, the average net income of the families remaining on farms would be sufficient to enable them to carry their rightful share of an adequate pension program for all persons over 65 years of age.

These and other possible measures are discussed frankly in this report because the gravity of the post-war problem will require their consideration. They are the only measures at hand which seem capable of providing a basis for full employment of farm people. It is necessary that their character and possible effects be understood.

Actually no democratic government could or should reshuffle people and land indiscriminately without regard to the wishes and choice of those involved and no such action is contemplated here. If many of the 2250 part-time farmers in Linn County wish to continue living on half a job and a piece of a farm, it is in keeping with the American tradition that they be able to do so. But all, including themselves, should learn to know the national significance of their poverty. And the post-war program should provide them with the opportunity to change their status if they so desire. If federal and local programs offer the opportunity to farmers and urban workers to earn a full living, and to retire at 65, there is little doubt that over a period of time an adjustment to these conditions rather than to continuing poverty would be freely made.

In order to accomplish the objective of full employment, it will be necessary to implement any effective post-war program by a degree of public enterprise, financed out of the increased income resulting from an effective use of man power. It is not necessary in a report of this character to expound the economic policies involved in a dual economy. These have been sufficiently explained in a pamphlet on post-war planning entitled, "After the War - Full Employment", published by the National Resources Board in January 1942.

The present study is an attempt to apply the formula of a dual economy theoretically to a definite area. The analysis is necessarily incomplete in detail. A more thorough study would modify the program by weighing various factors differently but, by and large, the conclusions stand. Post-war employment in Linn County can be increased by raising the level of living of most of the people through a more complete and effective

had made an appearance in a full program of employment and economic or political operations were initiated.

The seemingly favorable character of such an adjustment in agriculture is assumed, however, by the fact that two-thirds of the family heads involved are primarily urban workers who, in 1940, were employed in town for an average of 160 days per year. It is further supported by the fact that there were over 900 farm operators over 65 years old, who might well retire. Furthermore, the average net income of the families remaining on farms would be sufficient to enable them to carry their respective share of an adequate pension program for all persons over 65 years of age.

These and other possible measures are discussed briefly in this report together the gravity of the post-war problem will require their specification. They are the only measures at hand which seem capable of providing a basis for full employment of farm people. It is necessary that their character and possible effects be understood.

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In order to accomplish the objectives of full employment, it will be necessary to implement any effective post-war program by a degree of public control, financed out of the increased income resulting from an effective use of man power. It is not necessary in a report of this character to expound the economic policies involved in a full economy. These have been sufficiently explained in a pamphlet on post-war planning entitled, "After the War - Full Employment", published by the National Resources Board in January 1942.

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In Lima County can be increased by raising the level of living of most of the people through a more complete and effective

use of their labor energy. Society, as in the case of an individual, prospers by being industrious. Both the volume of consumption and the volume of savings are increased by greater industry and in no other way.

THE PROJECT

The economic considerations involved in needed post-war adjustments do not form a part of the every-day thinking of a majority of those who may be affected by depression or by expanded enterprise, because their time is taken up in making a living. If democracy is to work successfully, it is necessary that facts be developed by specialists in order that those who cannot make independent investigations may still be in possession of information upon which they may act intelligently. Social devices must be created to meet economic issues just as new mechanisms for production are developed by engineers, chemists, physicists and biologists, or as new techniques of management are devised to meet new demands upon enterprise. When economic factors affecting conditions in any locality have been analyzed, the results can be made available to all who care to use them. This would include those concerned with national policies as well as those concerned with the local situation. The present study was undertaken with this purpose in mind.

The development of facts is a specialist's job, but action upon those facts must come from individuals, communities, and groups within communities who exercise sovereignty in a democratic order. Fully effective social action must be based upon consent and participation by those in whose interest action is to be taken. A superimposed program lacks the vitality which animates a willing cooperation. To be done for, may meet an immediate physical need, just as feeding a steer may develop prime beef, but it does not provide the essential satisfactions nor the sense of responsibility and accomplishment which give vitality and purpose to the individual, who is the entity of final importance.

Planning of this kind cannot be done by any one group. Migrant laborers, for example, cannot have their economic and social status determined by employers only, if consent and participation are to be the guiding principles of planning. If planning had been confined to the employer group only, many counties on the Pacific Coast would be without the migratory labor camp facilities now provided as a means of ameliorating the bad living conditions of a labor group that is a necessary part of the existing farm pattern. Neither would wages be as high as they are in industry if labor had not organized to plan for its own future. Nor would the farmers have obtained the aid of the Extension Service, nor the control program of the AAA if they had not acted in their own interest. Enterprisers, owners, managers, and laborers all have a stake in the economy, and no one group of producers can represent the others because their interests are not wholly parallel. The consumer interest is the only common denominator. All consumers want an abundant supply. But each wants to be in position to have a say as to the share he is to receive and the conditions under which he works and lives. It is in this field where democratic action becomes economically and socially significant.

the economic considerations involved in needed post-war adjustments do not form a part of the everyday thinking of a majority of those who may be affected by decisions or by expanded criteria, because their time is taken up in making a living. If democracy is to work successfully, it is necessary that forces be developed by specialists to insure that those who cannot make independent investigations may still be in possession of information upon which they may act intelligently. Social forces must be organized to work constructively, just as new mechanisms for production are developed by engineers, chemists, physicists and biologists, or as new techniques of management are devised to meet new demands upon industries. When economic factors affecting conditions in any locality have been analyzed, the results can be made available to all who care to use them. This would include those concerned with national policies as well as those concerned with the local situation. The present study was undertaken with this purpose in mind.

The development of ideas is a specialist's job, but action upon those ideas must come from individuals, communities, and groups in these communities who exercise sovereignty in a democratic country. Fully effective social action must be based upon consent and participation by those in whose behalf action is to be taken. A top-heavy program lacks the vitality which ensures a willing cooperation. To be done well, may need an immediate physical need, just as feeding a sick may develop prime blood, but it does not provide the essential satisfactions for the sense of responsibility and accomplishment which give vitality and purpose to the individual, who is the unity of final importance.

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There also must be social consent and participation to supplement individual planning efforts, because action in the interest of a group may require both economic facilities and the authority of sovereign power. Sovereign authority may be needed to implement needed action, particularly in the fields of research, finance, and administration. Such authority may become necessary also where a socially sound program is opposed by a privileged minority. Administration becomes important when planning brings action as it did under the AAA program or as it is now doing under a war economy, and as planning must bring action in the future, if necessary post-war adjustments are to be made.

An analysis of the members of committees in Linn County, acting in planning and advisory capacities in connection with the various programs of the Department of Agriculture, shows a rather logical distribution of individual interests as far as the commercial farming group is concerned. The 93 individuals serving on these committees whose holdings are known are divided as follows:

By Tenure:	
Owner-operators of single farm units	51.7 %
Tenants operating single farm units	11.8
Multiple operators handling more than one unit	36.5
By Size of Farm	
Farmers operating less than 500 acres	82.8 %
Farmers operating from 500 to 999 acres	12.9
Farmers operating more than 1000 acres	4.3

Three important groups, numerically speaking, were poorly represented or not represented at all. Subsistence farmers, part-time farmers, and farm laborers, who together account for more than two-thirds of those who make all or part of their living from agriculture, do not participate in the councils on policy matters which concern their interests.

This fact is important because these groups form an important segment of the total number of low-income people in Linn County, whose levels of living must be raised if full employment and business stability are to be realized. This group includes the "forgotten man" whose wants must be implemented by sound social action as a means of expanding the market for goods and services, if for no other reason.

The problem which this situation presents is not easily answered. It is basic to a proper working of democracy everywhere. Participation by these groups in planning is obviously desirable and should be accomplished. By and large, the fact that they represent under-privileged groups lessens their contacts, their understanding of issues, and their willingness to serve. A better adaption of the educational system to the needs of modern society is one answer. But improving the economic status of the

[illegible]

group as a whole is a basic prerequisite to any effective remedy. The processes of economic adjustment will, in themselves, do much to bring the group as a whole into a more intimate relationship to the community. Leadership can and should be developed within these groups by the help of trained specialists, just as leadership in the more dominant groups is now developed.

LINN COUNTY

Linn County, Oregon, was selected as an area for study because it is typical of the rural portion of the Northwest lying between the Cascades and the Pacific and is confronted with the same types of problems facing other counties in the Northwest where agriculture and forestry dominate the economy. The county is located in the Willamette Valley about half way between Salem, the capitol of the State, and Eugene, a city of 20,000, as shown in Figure I

Area

Approximately a third of Linn County is in farms and two-thirds in timber. The acreages as classified by the 1940 Census are as follows:

Total area	1,468,160	Acres
Percent of all land in Oregon	2.4	Per cent
Timber land and other land not in farms	983,360	Acres
Land in farms	484,800	"
All crop land	212,106	"
Plowable pasture	51,327	"
Wood land (in farms)	76,731	"
All other land in farms (range etc.)	144,636	"

Population

There were 30,485 people in Linn County on April 1, 1942. This was 2.8 per cent of the total population of the State. The relative density of population in Linn County as compared with that of the State and Nation is shown in the following comparisons:

Linn County	one person per	48.1	Acres
State of Oregon	" " "	56.5	"
United States	" " "	14.7	"

The differences in density of population are due, in large part, to differences in the proportion of sparsely settled timber and range lands.

The acres of farm land per person in Linn County and in Oregon are approximately the same but are nearly twice the figure for

the United States as a whole. The figures are as follows:

Acres of land in farms per person in	Linn County	15.9
" " " " " " " "	Oregon	16.5
" " " " " " " "	United States	8.0

Rate of Population Growth

The population of Linn County was relatively stable during the twenty-year period from 1910 to 1930. At the beginning of this period the economy of the county was based almost wholly upon agriculture. The available farm land was quite well settled by 1910 and the town population was geared to the service needs of a rural community. While the population of the county increased but 8.9 per cent between 1910 and 1930, the population of the State of Oregon increased by 41.7 per cent and that of the United States by 33.4 per cent. But during the following decade a change took place which reversed the record. Between 1930 and 1940 the population of Linn County increased by 23.4 per cent as against a rate of increase in the State of but 14.2 per cent and a rate for the United States of but 7.2 per cent.

This sudden increase in population during the past decade was due mainly to an increase in logging activities. The rate of increase has been accelerated very appreciably since the 1940 census record was taken. The economy of the county is being changed very rapidly from one largely dominated by agriculture to an industrial economy based on increased logging and milling operations. The figures showing the rate of population growth are given in Table 1.

Over 80 per cent of the population of Linn County was rural in 1910 as compared to a rural population of 54.3 per cent for the State of Oregon and 53.7 per cent for the United States. The proportion of the population living in rural areas decreased during the following thirty years but in Linn County the percentage of rural population was still high—72.5 per cent in 1940—as compared to 51.2 per cent for the State and 43.5 per cent for the United States. The number of rural people actually declined between 1920 and 1930 but increased by 14.1 per cent during the following decade.

Table 1

Comparison Between Rates of Population Growth for Linn County, the State of Oregon, and the United States By Decades Between 1900 and 1940

Year	United States	Oregon		Linn County	
		Population	Rate of Growth	Population	Rate of Growth
	Percent	Number	Percent	Number	Percent
1940	7.2	1,089,684	14.2	30,485	23.4
1930	16.1	953,786	21.8	24,700	0.6
1920	14.9	783,389	16.4	24,550	8.3
1910	21.0	672,765	62.7	22,662	-
1900	20.7	413,536	—	—	-

Source: U. S. Census 1900 to 1940

A striking increase occurred in the urban group in Linn County between 1930 and 1940 due to the population of the town of Lebanon reaching the 2500 mark which automatically removed it from the rural classification. As a result the urban population was increased by 57.4 per cent. If this change were taken into account the rate of growth of rural population would be much greater than the record shows since the rural population outside of Lebanon increased by 25.1 per cent, or nearly twice the percentage shown by the unadjusted figures. The record is given in Table 2.

Table 2

Comparison of Urban and Rural Population Growth In Linn County, the State of Oregon, and the United States by Decades from 1900 to 1940

Year	United States	State of Oregon				
	Per cent Rural	Urban Population	Per cent Increase	Rural Population	Per cent Increase	Per cent Rural
1940	43.5	531,675	8.6	558,009	20.3	51.2
1930	43.8	489,746	25.5	464,040	18.1	48.7
1920	48.8	390,346	27.1	393,043	7.5	50.2
1910	54.3	307,060	130.6	365,705	30.4	54.4
1900	60.3	133,180	—	280,356	—	67.8
			Linn County			
1940		8,383	57.4	22,102	14.1	72.5
1930		5,325	20.0	19,375	-1.7	78.4
1920		4,840	13.5	19,710	7.1	80.2
1910		4,275	35.8	18,387	18.9	81.1
1900		3,149	—	15,454	—	—

Source: U. S. Census from 1900 to 1940

Figure 1

OREGON: Showing Location of Linn County

Rural Farm and Rural Non-Farm Population

More than two-thirds of the rural population in Linn County live on farms. This is a much larger percentage than for the State as a whole, where less than half the rural population live on farms. The record is shown in Table 3.

Table 3

Comparison of Proportions of Rural Farm and Rural Non-Farm Population for Linn County and the State of Oregon, 1930 - 1940

Year	State of Oregon				Linn County			
	Rural Farm Population		Rural non-farm Population		Rural Farm Population		Rural Non-Farm Population	
	Number	% of all rural	Number	% of all rural	Number	% of all rural	Number	% of all rural
1940	256,283	45.9	301,726	54.1	14,159	71.0	5,776*	29.0
1930	221,545	47.7	242,495	52.3	12,210	69.6	5,314*	30.4

* This figure does not include the town of Lebanon.

Source: U. S. Census for 1940 and 1930.

Distribution of Increase in Population

The distribution of the increase in population in Linn County during the decade 1930-40 was correlated with the opportunity for employment. Nearly two-thirds (63.1 per cent) of the increase occurred in Albany, Lebanon, and Sweet Home and in the precincts immediately adjacent to them. The population of the three towns increased by 34.0 per cent and of the precincts by 29.1 per cent. These three towns are the centers of the timber operations which have increased markedly during the past few years. There was a net increase of 188 in the towns of Harrisburg, Brownsville, and Scio where lumber operations are also centered. Together these six towns contain wood and wood-product manufacturing establishments as listed in Table 4.

[illegible] two-thirds of the rural population in Linn County [illegible]. This is a much larger percentage than for the [illegible], where less than half the rural population [illegible]. The record is shown in Table 3.

Table 3

[illegible]

[illegible]	Linn County		
	Rural Farm Population	Rural Non-Farm Population	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

* This figure does not include the town of Lebanon.

Source: U. S. Census for 1940 and 1930.

[illegible]

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Table 4

Centers of Wood and Wood Product Manufacture
By Numbers of Concerns and Employees
April 1940

Town	Number of Wood and Wood Product Manufacturing Concerns	Total Number Employed
Albany	6	138
Lebanon	10	196
Sweet Home	5	266
Harrisburg	1	71
Brownsville	4	35
Scio	4	60
Total	30	766

Source: The records of the Bureau of Labor of The State of Oregon, Salem.

In addition to the concentration of new settlement in the three towns of Albany, Lebanon, and Sweet Home and in the precincts immediately adjacent to them, 22.5 per cent of the increase in population occurred in the forested mountain precincts lying east of the farm lands of the valley area. Settlement in this mountain area was influenced by lumbering operations, which offer the principal source of income. When the increases in population of the areas affected by forest activities are all added together they account for 85.6 per cent of all of the increases in population recorded by precincts. The figures and percentages covering the distribution of the increase in population are shown in Table 5.

Table 5

Increase and Decrease in Population by Precincts
In Linn County, Grouped in Their Relation
To Employment Opportunities in
Lumbering Operations

Towns and Precincts	Net Gain in Population Between 1930 & 1940	Per cent of total gain	Net Loss in Population Between 1930 & 1940	Per cent of total loss
Major Timber Handling Towns	2,108	34.1	-	-
Albany	329	5.3	-	-
Lebanon	878	14.2	-	-
Sweet Home	901	14.6	-	-
Minor Timber Handling Towns of Brownsville, Harrisburg, and Scio	188	3.1	-	-
Precincts Adjacent to Timber Handling Towns	1,805	29.3	-	-
Albany	112	1.8	-	-
Sunrise	269	4.4	-	-
Calapooia	106	1.7	-	-
Strawberry	258	4.2	-	-
Sweet Home	438	7.1	-	-
S. Sweet Home	622	10.1	-	-
Forest Precincts				
Those showing increase	1,395	22.6		
Those showing decrease			40	11.6
Valley Precincts Distinctly Agricultural not Including Towns of Brownsville, Harrisburg, and Scio				
Those showing increase	675	10.9		
Those showing decrease			303	88.4
Total	5,983	100.0	343	100.0

Source: U. S. Census from 1930 and 1940, 1st Series, Table 4.

Origin of Recent Immigration

In order to determine something of the character of the newer settlement, a questionnaire was circulated among the school children at Sweet Home and in five country school districts in the adjacent mountain area. The records show 51.5 per cent of the families as continuous residents in Oregon immediately

[illegible]

prior to moving to their present locations. Contrary to the opinion of many old timers, the new settlers are not "dust bowlers". Only 13.8 per cent of the 421 families represented by the survey came directly from the Great Plains. Over 10 per cent of those answering the questionnaires had moved into Linn County from the State of Washington, and 8.3 per cent came from California. Nine per cent came from the Middle West. Two-thirds of the total number were in the non-farmer class. The full record is given in Table 6.

Table 6

Region Last Lived in - By Families Having Children in the Schools at Sweet Home and Vicinity 1942

Region	All		Farmers		Non-Farmers	
	No.	%	No.	%	No.	%
Oregon	217	51.5	89	56.8	128	48.5
Washington	45	10.7	11	7.0	34	12.9
Northern Great Plains	39	9.3	14	8.9	25	9.5
Central	38	9.0	12	7.6	26	9.8
California	35	8.3	17	10.8	18	6.8
Southern Great Plains	19	4.5	9	5.8	10	3.8
Idaho	13	3.1	1	0.6	12	4.5
Southwestern States	8	1.9	1	0.6	7	2.7
Southeastern States	4	1.0	2	1.3	2	0.7
Foreign	2	0.5	1	0.6	1	0.4
Northeastern	1	0.2	-	-	1	0.4
Total	421	100.0	157	100.0	264	100.0

Source: Results of Field Survey Made in Sweet Home District and Adjacent Territory November, 1941.

Further information on the immigration into the Sweet Home area is presented in Table 7 which shows where 196 of the families lived in 1930. Fifty per cent of these families came from the Great Plains or the Middle West. One-fifth of their number came from the Southern Great Plains States. Approximately 10 per cent lived in the State of Washington in 1930, and 11.7 per cent lived in California.

Table 7

Region Lived in in 1930

By Families

With Children in the Schools of Sweet Home and Vicinity in 1942

Region	All		Farmers		Non-Farmers	
	No.	%	No.	%	No.	%
Oregon	41	20.9	17	24.7	24	18.8
North Great Plains	40	20.4	14	20.4	26	20.5
Central	38	19.5	11	15.9	27	21.3
California	23	11.7	11	15.9	12	9.4
Washington	20	10.2	3	4.3	17	13.4
South Great Plains	20	10.2	10	14.6	10	7.9
Idaho	5	2.6	1	1.4	4	3.1
Southwest States	3	1.5	1	1.4	2	1.6
Southwestern States	3	1.5	-	-	3	2.4
Northeastern States	2	1.0	1	1.4	1	0.8
Foreign	1	0.5	-	-	1	0.8
Total	196	100.0	69	100.0	127	100.0

Source: Results of Field Survey in Sweet Home District and Adjacent Territory November, 1941.

Occupations

According to the data compiled in the population census, approximately one-third of the total production force in the county in 1940 were enterprisers.

Of the total number of enterprisers recorded in the population census more than three-fourths were farmers. These data, however, record only 2484 farmers and farm managers, including tenants, as against a total of 3325 recorded in the agricultural census. This difference is due to the fact that the population censes enumerated part-time farmers as laborers where their principal income resulted from employment off the farm. If the 3325 figure recorded in the agricultural census were used, farmers would represent 81.1 per cent of all enterprisers. This preponderance of farmer enterprisers is due to the fact that farming is the principal large industry that is still operated on a craft basis and is, therefore, an industry where individuals can establish themselves as independent operators. Retailing comes second.

The labor dependent for employment upon the enterprisers in the county totaled 6397, including 1013 unemployed laborers seeking jobs and 395 on public emergency work for WPA, NYA, and other related agencies. Of the total number of laborers, 714 or 11.1

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
North Great Plains	40	20.4	14	20.4	26	20.5
Central	38	19.5	11	15.9	27	21.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	10.2	10	14.6	10	7.9
Tribes	[illegible]	2.6	1	1.4	4	3.2
[illegible]	[illegible]	1.5	1	1.4	2	1.6
[illegible]	[illegible]	1.5	—	—	3	2.4
[illegible]	[illegible]	1.0	1	1.4	1	0.8
[illegible]	[illegible]	[illegible]	[illegible]	—	1	[illegible]
Total	196	100.0	69	100.0	127	100.0

Source: Results of Field Survey in Sweet Home District and [illegible], 1962.

According to the data compiled in the population census, approximately one-third of the total production force in the county is [illegible].

Of the total number of entrepreneurs recorded in the population census only 2484 farmers and farm managers, including tenants, as against a total of 3325 recorded in the agricultural census. This difference is due to the fact that the population census enumerated [illegible] from employment off the farm. If the 3325 figure recorded in the [illegible] of all entrepreneurs. This proportionness of farmer entrepreneurs is due to the fact that farming is the principal large industry that is still dominated on a craft basis and is, therefore, an industry which individuals can establish themselves as independent operators [illegible].

Labor demands for employment upon the entrepreneurs in the [illegible] public emergency work for WPA, NYA, and other [illegible]. Of the total number of laborers, 74 or 11.3 [illegible]

per cent were farm workers. Possibly a large proportion of the 1013 seeking work on April 1 should be placed in the farm labor group, although it is reasonable to assume that the largest proportion of the unemployed was in the non-farm field. April 1 is a period of average demand in agriculture but is too early for full employment in logging operations which do not get into full swing until May 1. Professional workers comprised but 2.9 per cent of the total production force.

Out of ten major classifications of employed labor the following four groups ranked the highest and comprised 76.5 per cent of the total number of employed laborers.

Laborers (except agriculture)	1121
Operatives and kindred workers	1014
Craftsmen, foremen, and kindred workers	938
Farm laborers, including 218 unpaid family workers	911

A full classification of all of the production force of the county is presented in Table 8.

Table 8

Classification of Total Production Force in Linn County as Enterprisers, Professional Workers and Laborers, 1940

	Male		Female	
Total Production Force	9637	100.0	1761	100.0
Enterprisers	3255	33.8	142	8.1
Farmers and farm managers	2484	25.8	42	2.4
Proprietors, managers, officials	771	8.0	100	5.7
Professional and Semi-Professional	287	3.0	304	17.3
Employed Laborers	5206	54.0	1191	67.6
Clerical, sales and kindred workers	543	5.6	405	23.0
Craftsmen, foremen and kindred workers	938	9.7	6	.3
Operatives and kindred workers	1014	10.5	128	7.3
Domestic Service	6	.1	298	16.9
Service workers, except domestic	240	2.5	218	12.4
Farm laborers (wage workers) and farm foremen	693	7.2	21	1.2
Farm laborers, (unpaid family labor)	218	2.3	16	.9
Laborers except farm	1121	11.6	11	.6
Public emergency work (WPA - NYA)	347	3.6	48	2.7
Occupation not reported	86	.9	40	2.3
Unemployed (seeking work)	889	9.2	124	7.0

Source: Population Census for Oregon, 2nd Series, 1940, Table 23, Page 44.

Of the gainfully employed in Linn County in 1940 half (50.5 per cent) were engaged in agriculture and forestry, including logging and milling. Another 5 per cent were engaged in manufacturing activities using farm or forest products. In addition an appreciable proportion of the 726 engaged in transportation and communications, comprising 7.3 per cent of the total, were working for either agricultural or forestry interests. Mines and quarries employed 0.1 per cent of the total. Manufacturers not using farm or forest products, employed 0.6 per cent of the total. Wholesale and retail establishments, including eating places and hotels employed 1243 persons or 12.4 per cent of the total number of gainfully employed. If transportation is classified as an independent service, agricultural and forestry interests account for 55.5 per cent of all employment. Those not included in these two primary activities were engaged, in large part, in serving the needs of the communities based upon agriculture and forestry.

Of the total gainfully employed in 1940, 14.8 per cent were women. Approximately three-fourths (76.6 per cent) of the women were employed in wholesale, retail, professional, semi-professional, and miscellaneous services. Nearly 5 per cent were engaged in farming. Table 9 gives the record of employment of all gainfully employed by types of occupation.

Table 9

Classification of Total Gainfully Employed in Linn County by Type of Occupation, 1940

Occupation	Total		Male		Female	
	No.	%:	No.	%:	No.	%
Gainfully employed	9990		8401		1589	
Agriculture (Farmers, tenants, managers and laborers)	3505	35.1	3421	40.7	84	5.3
Forestry (including logging & fishing)	874	8.7	864	10.3	10	0.6
Sawmills and planning mills	666	6.7	650	7.7	16	1.0
Paper and allied products (mfg.)	145	1.5	141	1.7	4	0.3
Mfgs., using farm products (food & textiles)	246	2.5	192	2.3	54	3.4
Mfgs., using forest products (furniture, store fixtures, misc. & wood products)	95	1.0	92	1.1	3	0.2
Mines and quarries	44	0.4	43	0.5	1	0.1
Construction	406	4.1	401	4.8	5	0.3
Printing and allied industries	87	0.9	74	0.9	13	0.8
Mfgs., other than forest and farm	58	0.6	57	0.7	1	0.1
Transportation, communications and dependent services	726	7.3	660	7.9	66	4.2
Wholesale, retail, eating places, hotels	1243	12.4	849	10.1	394	24.8
Utilities	121	1.2	106	1.3	15	0.9
Miscellaneous services	639	6.4	218	2.6	431	27.1
Professional, finance, real estate	743	7.4	357	4.2	386	24.3
Government service	184	1.8	144	1.7	40	2.5
Unaccounted for	208	2.0	132	1.6	66	4.2

Source: Population Census, Oregon, 2nd Series, 1940

THE PROBLEM

The record in Linn County shows a progressive adjustment to poverty on the part of a large proportion of the population. Prior to the war effort individual poverty was growing and it was being stabilized by the well-intended efforts of individuals seeking to attain personal security within a framework which had not provided a satisfactory income for the majority. The trend in this direction has been in progress for twenty years and has been accelerated during recent months by a prevalent fear of post-war collapse. One sign of this trend is a conscious effort on the part of both laborers and business men to secure a stake in land as a primary source of sustenance if worst comes to worst. The situation is important because of its motivation, and because it is wide-spread.

Of all labor in Linn County on April 1940, 36.8 per cent consisted of 1013 unemployed laborers, and 395 WPA and other emergency employees, 234 unpaid family laborers, and 714 low-paid farm hands. There was, in addition, a total of 747 employees of retail establishments in Linn County who received an average yearly income of but $908. Those employed in retail trade in Albany, the county seat and largest town, received an average of $973 as compared to an average of $793 paid to employees of retail establishments in all other sections of the county. The state average in 1939 was $1058. It is interesting to note that the average compensation received by employees of retail establishments in 1929 in Linn County was $1262 or $353 more than in 1939. The State average for 1929 was $1353 or $295 more than in 1939. The range of income of employees in retail establishments is not available, but the low average indicates clearly that many are in a very low income group. If, to the groups listed above, were added the low-income farmers (not including 811 part-time farmers classified as laborers in the population census) the total would account for more than half of the total production force of the county, and the list would still be incomplete.

The economic significance of this low-income group is emphasized by the fact that the average return for all consumer units in the United States must be three times as large as the return of the lower third of the gainfully employed in Linn County if the national income is to reach the $110,000,000,000 level deemed necessary for adequate employment.

How can the income of the low-income groups in Linn County be raised to an acceptable and economically sound level? This is the query for which this report seeks an answer, at least in general terms.

Agricultural Income and Size of Farms

The 3325 farms in Linn County can be divided into three general groups for the purpose of the present analysis: Part-time and subsistence farms, family farms, and large farms. Each group presents special problems. For the sake of clarity each is discussed separately in the analysis which follows. The income data in Table 10 are classified by these groupings.

Figure 2

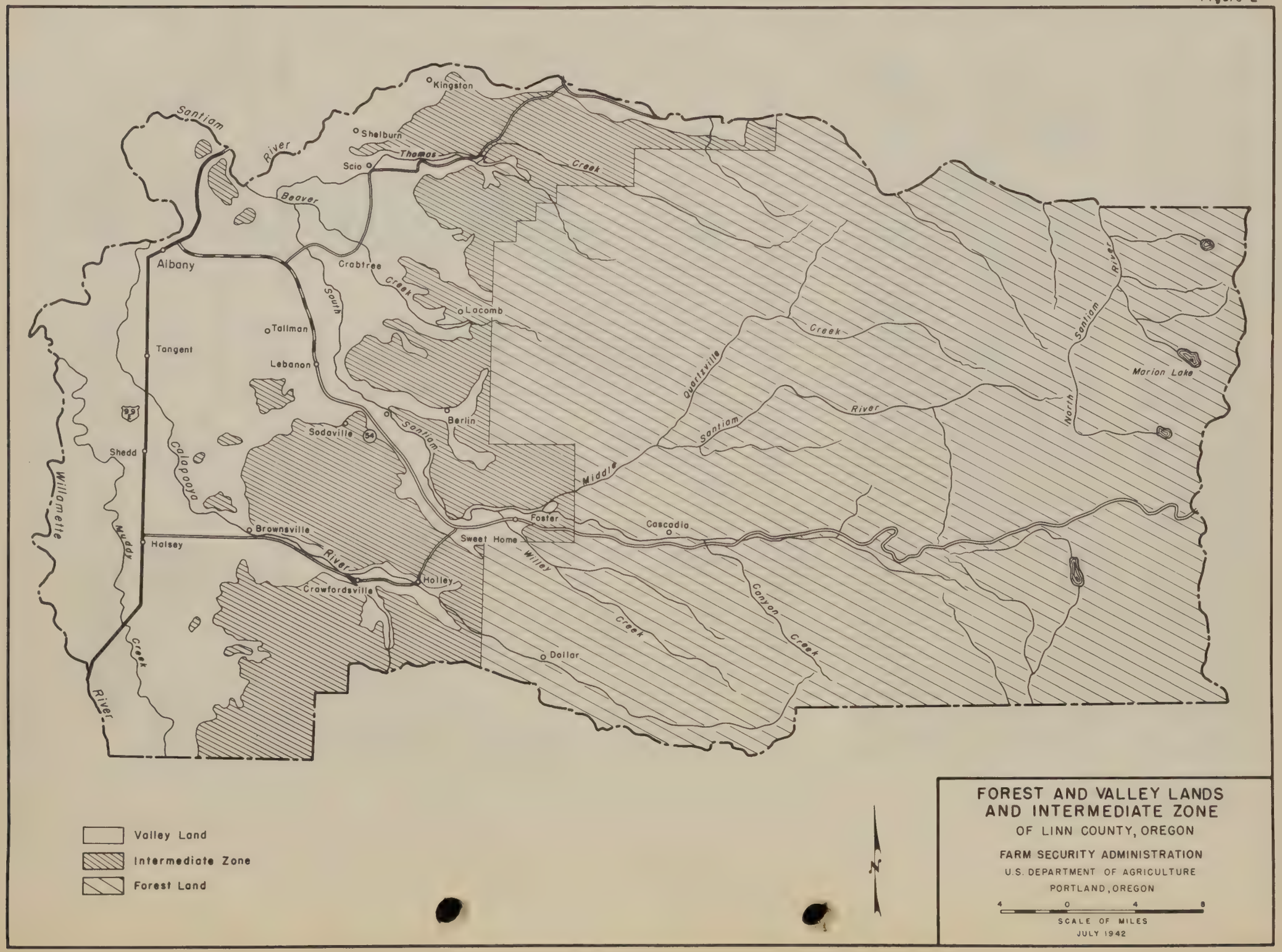

Kingston
Shelburn
Scio
Thomas
Santiam
River
Beaver
Creek
Albany
Crabtree
Creek
South
Lacomb
Tallman
Tangent
Lebanon
Berlin
Sodaville
Santiam
Shedd
Calapooya
Willamette
Muddy
Creek
River
Brownsville
Holsey
River
Crawfordsville
Holley
Foster
Sweet Home
Middle
Santiam
Quartzville
Creek
Cascadia
Willey
Creek
Canyon
Creek
Dollar
River
North
Santiam
River
Marion Lake
Valley Land
Intermediate Zone
Forest Land
N
FOREST AND VALLEY LANDS
AND INTERMEDIATE ZONE
OF LINN COUNTY, OREGON
FARM SECURITY ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE
PORTLAND, OREGON
4 0 4 8
SCALE OF MILES
JULY 1942

Table 10

Farms in Linn County Classified by Total Value of Farm Products Sold, Traded or Used by the Household 1939 - 1929

Income Group	1939 Number of Farms	1929 Number of Farms	Per Cent Increase or Decrease	Gross Value of Farm Products Sold or traded, 1939	Per Cent of Total Gross Values of Products sold or traded, 1939
Total	3,295	2,857	+ 15.3	$5,042,240	100.0
Under 250	560	180	+ 211.1	25,564	0.5
250 - 399	359	162	+ 121.6	55,940	1.1
400 - 599	399	291	+ 37.1	126,048	2.5
600 - 999	541	482	+ 12.2	324,306	6.4
1000 - 1499	393	445	- 11.7	396,571	7.9
Sub-total	2,252	1,560	+ 44.4	928,429	18.4
1500 - 2499	423	628	- 32.6	735,451	14.6
2500 - 3999	307	418	- 26.6	891,322	17.7
4000 - 5999	173	218	- 20.6	795,622	15.8
6000 - 9999	86	103	- 16.5	620,001	12.3
Sub-total	989	1,367	- 27.7	3,042,396	60.4
10,000 - 19,000	44	23	91.3	(1,071,415	(21.2
20,000 & over	10	7	42.9	(	(
Sub-total	54	30	80.0	1,071,415	21.2

Note: The total number of farms in this table does not include 30 farms not classified by the census.

Source: Agricultural Census for Oregon, 3rd Series, Table 20 1930 and 1940.

In broad outline the census data show less than one-fifth of the farms in Linn County producing sufficiently large gross incomes per family to support levels of living consistent with the nation's capacity to produce. Only 18.8 per cent of the farmers in the county made gross incomes of $2500 or more, including the value of home production, in 1939. When cash costs are deducted from the gross income, an appreciable number of those receiving less than $3000 gross returns will have a labor income that is much below the wage for urban employment. These facts are undoubtedly related to the decline of 30 per cent in the number of farms yielding gross incomes of from $1500 to $3999, which occurred between 1929 and 1939.

Although the census record does not give income figures by size of farms there is obviously a close correlation between amount of income and the acreage farmed. Very small farms and very large farms have increased markedly during the past two decades, just as low and high income farms have increased. Medium sized farms,

[illegible]

[illegible] Farms Classified by Total Value of Farm Products Sold or Traded in the Counties, 1929 - 1939

Farms Classified	1939 Number of Farms	1939 Number Increase or Decrease	Per Cent Increase or Decrease	Gross Value of Farm Products Sold or Traded, 1939	Per Cent of Total Gross Value of Products Sold or Traded, 1939
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10,000 - 19,999	44	[illegible]	91.3	(1,371,415	(91.2
20,000 & over	10	7	42.9	(	(
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Note: The total number of farms in this table does not include 39 farms not classified by the census.

Source: Agricultural Census for Oregon, 3rd Series, Table 20 1930 and 1940.

In broad outline the census data show less than one-fifth of the farms [illegible] per family to support levels of living consistent with the nation's capacity to produce. Only 15.8 per cent of the farms in the county made gross incomes of $2500 or more, including the value of home production, in 1939. When cash costs are deducted from the gross income, an appreciable number of farms receiving less than $2000 gross income will have a net income that is much below the wage for urban employment. There farms are undoubtedly related to the decline of 39 per cent in the number of farms yielding gross incomes of from $1500 to $2000, which occurred between 1929 and 1939.

[illegible] the census record does not give income figures by size of farms there is obviously [illegible] disparity between farmers [illegible] farmed. Very small farms and very large [illegible] particularly during the past two decades, just [illegible] have increased. Medium sized farms

corresponding in general to the traditional family farms, have decreased markedly, just as the medium income farms have decreased in numbers. The situation is illustrated graphically in Chart I which shows the record for the State of Oregon as well as for Linn County. The same general facts brought out in the Linn County record are apparent in the record for the State.

The trend in size of holdings in Linn County is clearly shown in the figures presented in Table 11. In the 20 year period between 1920 and 1940 the total number of farms increased by 285. This increase occurred in farms of less than 50 acres and of more than 260 acres. An analysis of the record shows that there were 500 more farms under 50 acres in 1940 than in 1920, but there were 274 less farms of 50 to 260 acres. The trend is reversed for farms of 260 acres or more. The number of farms from 260 to 999 acres increased from 461 in 1920 to 507 in 1940. In 1930 the 104 farms of from 500 to 999 acres contained 67,308 acres, while in 1940 114 farms contained 77,137 acres—an increase of 9.6 per cent in numbers and 14.6 per cent in acreage. There were 17 farms of more than 1,000 acres in 1920 and 29 such farms in 1940, an increase of 70.6 per cent. Between 1930 and 1940 the number of farms of more than 1,000 acres increased by 16.0 per cent, while the acreage in such farms increased by 24.2 per cent. The record is given in Table 11.

Table 11

Change in Number of Farms by Sizes
Between 1920 and 1930, 1935 and 1940

Range in Size of Farms	Number of Farms in 1940 1/		Number of Farms in 1935 1/		Number of Farms in 1930 2/		Number of Farms in 1920 2/		Increase or Decrease in Farms by size Betw. 1920-40	
Acres	No.	%	No.	%	No.	%	No.	%	No.	%
All sizes	3325	100.0	3849	100.0	3074	100.0	3041	100.0	+284	100.0
Under 50	1221	36.7	1336	34.7	929	30.2	721	23.7	+500	69.3
50 - 99	610	18.4	767	19.9	602	19.6	623	20.5	- 13	- 2.1
100 - 259	958	28.8	1288	33.5	1060	34.5	1219	40.1	-261	-21.4
260 - 499	393	11.8	348	9.0	354	11.5	371	12.2	+ 22	5.9
500 - 999	114	3.4	85	2.2	104	3.4	90	3.0	+ 24	26.7
1000 & over	29	0.9	25	0.7	25	0.8	17	0.5	+ 12	70.6

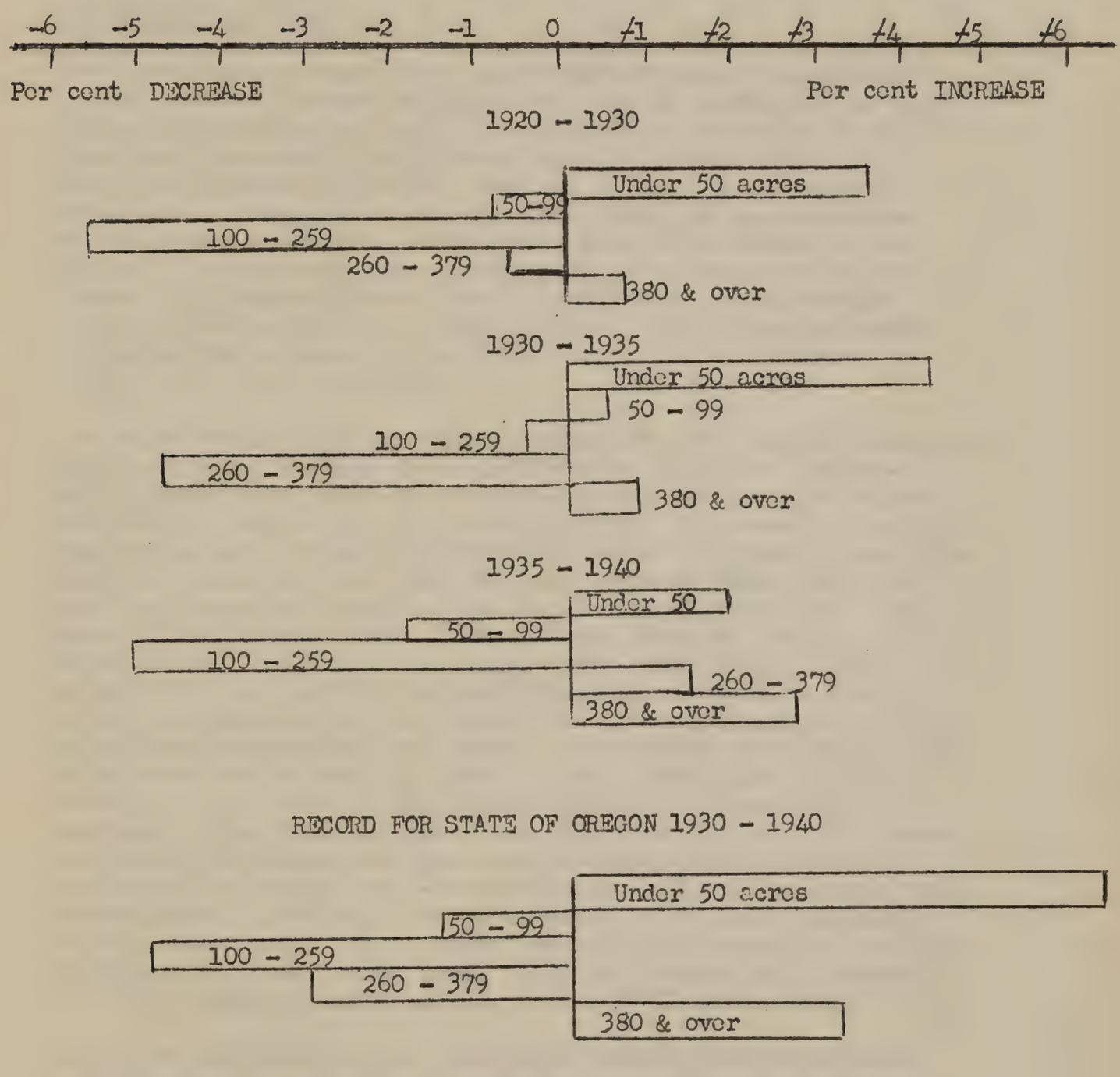
1/ Census of Agriculture, Oregon, 1st Series, 1940, Table 3
2/ Census of Agriculture, Oregon, 1st Series, 1930, Table 2

Growth of Large Farms

Farms yielding gross returns of more than $10,000 are here referred to as large farms. Although they account for only 1.6 per cent of the total number of farms they produced 21.2

Chart I

Changes in Numbers of Farms in Linn County
By Size Groups - 1920 to 1940



Source: Population Census for Oregon, 1930 - 1940

per cent of the total value of farm products sold or traded in Linn County in 1939. The average income of the 54 farmers in this group was $20,437 and together they received $283,641 more in values of produce raised than 1813 farmers received who were at the lower end of the income distribution. These large farms are not of the industrialized type, but they are distinctly out of the craft classification which typifies the family farm.

Multiple Farm Operation

The trend toward large farms apparently represents an attempt on the part of farmers to adjust the size of operations to the use of large scale equipment. Multiple farm operation is an important representation of this trend in Linn County. A multiple operator is one who owns one or more farms and rents from one to five, ten or twenty other farms and operates them as one management unit. These farms are not necessarily contiguous, in fact they seldom join. It is not uncommon to have farms 15 miles or so distant from the operating headquarters. As one farmer operating 10 farms put it: "All of my equipment including the combine, is on rubber and a little distance doesn't make much difference."

The relationship between multiple operation, the size of operations, and the number of large farms is shown in Table 12. Twenty-eight single unit owner-operator farms over 500 acres accounted for 2.6 per cent of all single unit farms. The average size of the single unit farms ranges from 97.9 acres in Albany district, an area of relatively good soil, to an average of 233.6 acres in the Harrisburg district, an area of relatively poor soil. There were 26 single unit tenant farms of more than 500 acres. The average size of tenant farms ranged from 121.4 acres in the Albany district to 319.1 in the Halsey district, an area of relatively poor soil. There were, on the other hand, 84 multiple unit farms of more than 500 acres. The average size of multiple unit farms ranged from 259 acres in the Albany district to an average of 561 acres in the Halsey district. Approximately 60 per cent of the farms of more than 500 acres were multiple farms containing an average of 390 acres in contrast to an average of 148 acres for single owner-operator farms and 222 for single unit tenant farms. Each of fourteen multiple unit farms contained 1000 acres or more. The largest covered 3,125 acres and included 2,209 acres of cultivated land. Only one tenant and 3 owner-operators handling single units, farmed 1000 acres or more each.

The facts developed amplify the trend toward large farms shown by the census records. Apparently the census records tabulated many farms as individual units which are actually operated by tenants who may own from one to five or more farms but who rent other farms also. If the effect of multiple operation where added to the figures presented in the census, a more pronounced trend toward large farms would undoubtedly be shown. In 1941, 70.8 per cent of the crop land included in AAA records in Linn County was handled by tenants or owners who were also tenants. Owner-tenants in 1941 handled 38.0 per cent of all land in farms included in these records.

Table 12

Record of Farms in Linn County by Size, Tenure, and Location

Location		Average Size	Median Size	Farms of 500 acres or more	
				Number	% of All Large Farms by Locality and Tenure Groups
Albany -	Owners	97.9	60	1	0.6
	Tenants	121.4	114	0	-
	Multiple Operators	259.5	171	5	9.6
Tangent -	Owners	160.9	127	1	1.4
	Tenants	191.9	160	1	3.6
	Multiple Operators	407.7	313	11	25.6
Shedd -	Owners	140.5	110	0	-
	Tenants	192.5	160	3	7.2
	Multiple Operators	355.3	297.5	9	23.6
Halsey -	Owners	164.1	107	4	9.3
	Tenants	319.1	240	5	16.1
	Multiple Operators	561.4	420	13	36.1
Harrisburg -	Owners	233.6	190	4	9.5
	Tenants	258.7	237	3	10.3
	Multiple Operators	448.9	319	13	34.3
Crabtree -	Owners	125.3	80	2	2.8
	Tenants	221.2	135	3	11.5
	Multiple Operators	289.6	233	3	9.1
Lebanon -	Owners	120.5	86	5	2.1
	Tenants	226.4	160	2	13.8
	Multiple Operators	352.6	245	13	19.7
Brownsville -	Owners	123.6	101	5	8.1
	Tenants	292.9	272	6	15.8
	Multiple Operators	438.0	279	10	27.0
Scio -	Owners	126.6	116	0	-
	Tenants	194.3	160	2	3.0
	Multiple Operators	288.7	190	4	9.7
Sweet Home -	Owners	166.3	120	6	7.2
	Tenants	178.6	120	1	4.0
	Multiple Operators	401.3	308	3	23.1

Source: Agricultural Adjustment Administration in Linn County, Oregon.

This attempt to enlarge the operating base was generally in line with the requirements of good management. The predominant growth of multiple operations occurred in the "white land" area where extensive agriculture based upon mechanized farming prevails. The farmers having inadequate holdings found it profitable to rent their land to large operators who had the necessary equipment and could make money by operating on a commercial scale. The relationships between size of holdings, and type of tenure are shown in Table 13. The large multiple farms are concentrated in the Tangent, Shedd, Halsey, and Harrisburg areas representing the "white land" areas. Owner-operation is concentrated in the better soil and more densely settled areas of Albany, Lebanon, Sweet Home, Scio, and Lyons. To the extent that it represents an adjustment to a physical situation, it is, in all probability, a sound move. Problems arise, however, when the operations extend far beyond the range of a normal family operating unit. These problems will be discussed in detail later on.

Table 13

Acreage in Farms of Owner-Operators, Tenants, And Owners Who Are Also Tenants, by Areas

Area	Owner-Operator Farms		Tenant-Operated Farms		Owner-Tenant Multiple Farms	
	Total Acreage	% of all land in District	Total Acreage	% of all land in District	Total Acreage	% of all land in District
Albany	15,384	39.9	10,687	27.7	12,456	32.4
Tangent	11,429	33.3	5,359	15.6	17,532	51.1
Shedd	8,448	28.0	8,085	26.8	13,569	45.2
Halsey	7,844	20.7	9,894	26.0	20,213	53.3
Harrisburg	9,811	28.5	7,504	21.8	17,058	49.7
Crabtree	9,271	38.9	5,751	24.2	8,796	36.9
Lebanon	29,233	44.5	13,132	20.0	23,274	35.5
Brownsville	10,319	31.8	10,690	32.9	11,462	35.3
Lyons	4,359	44.6	1,944	19.9	3,461	35.5
Scio	23,072	47.9	14,423	29.9	10,606	22.2
Sweet Home	13,971	59.6	4,465	18.8	5,217	21.6
Total	143,141	37.8	91,934	24.3	143,644	37.9

Source: Agricultural Adjustment Administration in Linn County, Oregon

Factors Affecting Trend Toward Large Farms. After the war, great advertising pressure will be brought to bear to expand the use of heavy equipment as a means of utilizing the tank making facilities developed during the war. This pressure will tend to accelerate the organization of farming operations on a larger scale.

The skills developed by the men in the fighting forces, drawn from both farms and rural areas serving the farmer, will be in line with those needed in large-scale undertakings. These men will not want to go back to manual work not requiring these skills.

The efficiency of large scale farming with modern equipment has been thoroughly demonstrated in the main farming areas in Linn County where all of the farm processes, from land preparation to harvest, have been mechanized.

Without doubt the crop control program initiated during the thirties will be re-established on broader lines and, with the advantage of experience, will serve more effectively than in the past to regulate supply in relation to demand in the interest of stability in the price structure. The establishment of this price stability removes the last great barrier to the organization of agriculture on a commercial basis in contrast to the organization suited to a craft industry.

In order to protect the consumer's interest in volume of output, subsidies will, no doubt, form an important part of the post-war economy. Subsidies will be used as a means of increasing consumer purchasing power in various ways. In the case of Linn County, continued purchase of seed from this area for use in soil erosion work and in soil building in the southern states will be of paramount importance.

The combined effect of these factors will tend to enlarge farm operations, expand industrialized farming, and lessen the proportion of land remaining under the family farm pattern.

Income Problem Presented by Large Farms. The income problem which large farms present can be shown most clearly by illustration. If a farmer in Linn County owns 151 acres of Amity soil, suited to the production of grain and seed crops, as illustrated in Table 15, he would receive $457 as a labor income and $717 as a return on his capital, or a total cash income of $1174 to which would be added $437 worth of farm privileges in the form of food, fuel and house rent. This total combined cash and subsistence income can be considered a minimum level. If, instead of farming one property of this type, he should operate five such farms, or ten or fifteen, he would receive five, ten, or fifteen times as much income from land as the owner-operator received in the above example. If the land income were three-fourths of the total investment income, including equipment, the land income of the large

[illegible] Large Farms. [illegible] the war, [illegible] will be desirable to bear to expand use of heavy equipment as a means of utilizing the tank making facilities developed during the war. This presence will tend to accelerate the organization of farming operations on a larger scale.

The skills developed by the men in the fighting forces, drawn from both farms and rural or non-farming life forces, will be in line with those needed in larger-scale undertakings. Thus men will not want to go back to manual work not requiring these skills.

The efficiency of large scale farming with modern equipment has been thoroughly demonstrated in the main farming areas in Lima County where all of the farm processes, from land preparation

Without doubt the crop control programs initiated during the [illegible] will be re-established on broader lines and the advantage of cooperation, will some [illegible] than in the past to regulate supply in relation to demand in the interests of stability in the prime structure. The establishment of this price stability removes the least great barrier to the organization of operations on a commercial basis in contrast to the organization method by a small industry.

In order to protect the consumer's interest in volume of output, subsidies will, no doubt, form an important part of the post-war economy. Subsidies will be used as a means of transferring consumer purchasing power in various ways. In the case of Lima County, continued operations of good farm units for some in mail production work and in soil building in the southern section will be of prominent importance.

The combined effect of these factors will tend to reduce farm operations, overall industrialized farming, and lessen the proportion of land remaining under the family farm system.

[illegible] Supported by Large Farms. The economic problem [illegible] present can be shown most clearly by illustration. If a farmer in Lima County owns 121 acres of land, equal to the production of grain and seed crops, as illustrated in Table 15, he would receive $[illegible] as a farm income and $[illegible] as a return on his capital, or a total of $[illegible]. If $[illegible] be added $[illegible] worth of farm provisions in the form of food, fuel and housing. This [illegible] income level. If, instead of farming one property, he had built up into five such farms, or ten or fifteen, [illegible] a three-fourths of the total investment

farmer in the example cited would amount to from $2688 to $8066 in addition to a greatly increased labor and management income.

The primary objection to a result such as this is not in the fact that a large operator might make $8000 to $10,000 net. It rests rather upon the fact that five, ten, or fifteen possible independent operators are shut out from owning or renting farms and receiving a part of the land and management income to supplement a low-wage income. The consolidation in this case would reduce the number of family farms capable of producing a net cash farm income of $1174 plus $437 worth of farm privileges by four, nine, and fourteen respectively. At least some of the farm operators who might own and operate independent units and obtain the land rent as a source of income during old age are forced to find a livelihood elsewhere or to accept part-time employment on large farms as tractor operators, foremen, or farm hands.

Decline in the Number of Family Farms.

For the purposes of this analysis a family farm of the traditional type is considered to be an independently operated enterprise yielding a gross return of from $1500 to $9999. The 1940 census records 989 such farms in Linn County. They comprise 30.0 per cent of all farms, and account for 60.3 per cent of the value of all products sold or traded in 1939. Together with the large farms, they comprise 31.6 per cent of all farms and account for 81.5 per cent of the total values produced.

The number of such farms declined by 23.4 per cent between 1930 and 1940. The census record does not provide income data for 1920, upon which an earlier comparison can be based, but the record of changes in size of farms indicates that the decline in these medium-sized farms, representing the traditional family unit, has been continuing for more than twenty years.

The query naturally arises as to the meaning of this trend. In part, it is the result of an attempt to adjust to adverse conditions facing all farmers. The middle-sized farm is difficult to organize and operate successfully, especially when a real estate debt is owed. Costs of production are usually high, and under existing price structures and marketing conditions these farms have difficulty weathering depressions. The 160-acre unit was a roughly accepted standard set by the Homestead Act. But 160 acres is not enough to support an acceptable level of living on the major soil types in Linn County, at least under conditions which have prevailed in the past. The Land Use Committee in Benton County (adjacent) recommended 200 acres for a family unit on Willamette soils, 300 acres on Amity soils, and 450 acres on Dayton soils. The average sizes of farms located on these major soil types in Linn County are much below these figures.

The increase in multiple operation is one evidence of attempted adjustment. Some who owned farms that were too small have sold or rented them to multiple operators and have moved to town to find jobs or small enterprises. The more resourceful operators have acquired more land in order to increase their incomes through more efficient use of labor and equipment. Others have cut down on their holdings and thereby their overhead costs and entered the part-time and subsistence farmer groups. Still others have remained on their family farms, although their incomes and environmental surroundings have declined.

In the analysis which follows there is no desire to depreciate the family farm as an accepted democratic institution. On the contrary, the desire is that it be placed on a more secure footing. From the standpoint of basic economic relationships, it is a sound pattern in its ideal form where ownership is a reality, the size of the farm large enough to support a satisfactory living level, and security is provided against division by inheritance or alienation by debt. It is and will continue to be a dominant farm pattern.

But in recognizing the acceptable character of the family-farm ideal it is not necessary to overlook its weaknesses. The fact remains that the family farm is giving way both in numbers and importance to subsistence farms on the one hand and to large-scale farms on the other. Powerful influences are causing this basic change. Certainly there has been no conscious abandonment of the Jeffersonian ideal of widely diffused land ownership as the basis for rural democracy.

It is not necessary for the purposes of this analysis to give a comprehensive appraisal of the influences at work. It will suffice to illustrate the problem involved and to indicate a means of meeting the issues which have arisen.

Income Problems Presented by the Family Farm

The income from a family farm comes from two sources--returns on investment, and labor income. The combined income is normally not large. If a reasonable rate of interest, say 4 per cent, is secured on the investment, the labor income may be and usually is very low indeed. A young man starting out as a tenant or a part-owner is faced with the necessity of paying for his land and equipment out of the savings from a meager labor income, and in most cases paying a higher rate of interest on his unpaid balance than he is able to earn in his management of the enterprise. As a result, alternative employment opportunities appeal to him, and those who are not well financed or do not inherit land tend to become tenants or leave the farm for urban employment. Under these circumstances many may become part-time or subsistence farmers. In addition, the normal wants of the farm operator, his wife, and his growing children, who are in contact with others in town having the advantages of modern conveniences and urban associ-

ations, cause dissatisfaction with the living most family farms provide.

The situation facing farmers is well illustrated by the figures in Table 14 which represent an analysis of the costs and returns on 60 farms in the Willamette Valley prepared by the Research Department of the Farm Credit Administration of Spokane. The pertinent facts were as follows:

> Farms on Chehalis soils—an excellent soil type—had an average capitalization of $20,390, made 1.6 per cent on the investment and a negative labor income of $ -195.
>
> Farms on Willamette soils—a good average soil type—had an average capitalization of $12,298, made 2.5 per cent interest on the investment and a negative labor income of $ -99.
>
> Farms on Amity soils—a relatively inferior type—had an average capitalization of $17,798, made 4.0 per cent interest on the capitalization and a labor income of $457.
>
> Farms on Dayton soils—an inferior type but well suited to the production of seed crops on an extensive basis—had an average capitalization of $15,922, made 8.5 per cent on the investment and a labor income of $1216.
>
> Two types of hill soils yielded $1 and $68 as interest on investments of $16,248 and $9,377 and labor income of minus $ -303 and $ -43 respectively.

The general conclusions to be drawn from these figures are broadly verified by cost studies carried out by the Oregon State College, Agricultural Experiment Station. In a study of "The Cost and Efficiency of Producing Walnuts in Oregon", it is shown that a farmer with 37.5 acres of walnuts producing 500 pounds per acre and selling for 13.9 cents per pound can make a net return of $1500 on a gross income of $2,591.23. 1/ An Oregon hop grower, on the other hand, must have 41.7 acres of hops yielding a gross income of $6,382.10 to make a net interest and labor income of $1500 with hops at 17.4 cents and yielding 900 pounds per acre. 2/ The figures in Table 14 are further substantiated, in general outline, by the fact that the only group of farmers making a net income of $1500 or more had a gross income of $5137,

1/ "Cost and Efficiency in Producing Walnuts in Western Oregon", Station Bulletin 396, June 1941, Oregon State College, Corvallis.

2/ "Cost and Efficiency in Producing Hops in Oregon", Station Bulletin 364, June 1939, Oregon State College, Corvallis.

representing a labor income of $1216 and an interest income of $1410. The average farm in this case comprised 264 acres, which was from 113 to 139 acres more than in the other farm studies referred to above. Of course, different types of farming are involved.

Table 14

Preliminary Analysis of Sixty Farm Records From the Willamette Valley Valuation Study Summarized According to Type of Soil

	1 Valley Chehalis etc.	2 Valley Willamette etc.	3 Valley Amity etc.	4 Valley Dayton etc.	1 Hill Olympic Loam etc.	2 Hill Olympic Clay etc.
Total Acres	147	125	151	264	143	132
Cultivated Acres	79	88	105	165	72	51
Per Cent Cultivated	54%	70%	70%	63%	50%	39%
Total Receipts	$ 2,340	$ 2,844	$ 3,665	$ 5,137	$ 2,739	$ 1,669
Total Expenses	1,515	2,051	2,319	3,145	2,229	1,157
Cash Income	619	592	1,037	2,003	668	526
Farm Income	825	792	1,345	1,992	510	512
Labor Income	-195	- 99	457	1,216	-303	43
Labor Earnings	227	302	892	1,565	196	398
Return on Capital	327	318	717	1,410	1	68
Average Capital	20,390	12,298	17,798	15,922	16,248	9,377
5% Interest	1,020	615	890	896	812	469
Farm Earnings	1,247	917	1,782	2,361	1,008	867
Farm Privileges	422	125	437	369	498	355

Source: Willamette Valley Loan Experience and Valuation Study, prepared by Research Department, Farm Credit Administration of Spokane, Washington, December 31, 1938. Table 9, page 13.

The data in these analyses do not represent an average condition. In fact, no general figure will show an average condition. There are too many variables to make possible the drawing of fully accurate conclusions bearing upon any future period, but the data illustrate the problem which the family farm operator faces. It is easy to see why many farm operators prefer to work for someone else who will pay a stipulated wage and assume most of the risk. If farmers were in position to demand a wage parity with other labor, their labor incomes would be raised appreciably, provided their time was fully employed. The comparison in Table 15 shows this wage relationship.

Table 15

Wages in Agriculture and in Industry

Type of Labor Income	1929 Dollars	1935 Dollars
Industrial	$ 1,404	$ 1,117
Agricultural	649	376
Farm Operators	812	489

Source: "National Income in the United States 1929-35", U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Tables 1 C and 39, Pages 44 and 71.

Part-Time Farm Problem

In 1940 there were 2252 farms in Linn County producing gross incomes of less than $1500, including the value of products raised for home use. From this gross income must be deducted the various operating costs. When these costs are deducted, there is not enough left to support an acceptable level of living from farm returns only. For purposes of this analysis, it is assumed that any farm producing a gross income of less than $1500 is a part-time farm, since the agricultural enterprise does not represent a full unit either from the standpoint of labor requirement or income. Undoubtedly some of these farms contain sufficient land so that satisfactory gross incomes could be produced if good management and adequate operating goods were provided. Such instances would be relatively few, however. Most of these farms in Linn County conform to the present-day part-time farming pattern. They are small units which have been developed through subdivision, and the occupants must rely upon outside cash income from some source or accept a very low level of living.

A record of incomes by income classes is given in Table 16. As mentioned previously, these 2252 farms comprise 67.7 per cent of all farms in Linn County, and they account for 18.4 per cent of the total value of products sold or traded.

Table 16

Number of Part-Time Farms by Income Classes in Linn County in 1940 with Income Data for Each Class

Income Range 1/	No. of Farms	Total Gross Cash Income	Average Gross Income from Products Sold Or Traded	Average Value of Products Raised for Home Use
No. Income	46	$ 25,564	$ 49	$ 92.41
Under $250	514	25,564	49	92.41
250 - 399	359	55,940	128	165.85
400 - 599	399	126,048	316	181.19
600 - 999	541	324,306	600	191.45
1000 - 1499	393	396,571	1009	205.35
Total	2252	928,429		

Source: 1940 Census

A total of 1381 part-time farmers out of 2252 in the entire income class worked for wages off the farm for an average of 140 days in 1939. Because some of these part-time farmers received more wages than farm income, the population census classified 841 of them as laborers rather than farmers. Two or three distinct groups can be recognized. A first group depend heavily upon outside cash income. They may work for wages at many kinds of employment, receive pensions or annuities, do custom work, or operate various enterprises. A second major group depend mainly or solely upon low farm incomes for their livings. Then the group who obtain outside employment may be divided into those who work on other farms and those who work at non-farm employment.

The 1381 heads of families who obtained outside employment in 1939 averaged 50.6 years old. Full owners among them averaged 53.8 years old and worked an average of 154 days at outside employment. Part owners averaged 49.0 years old and worked 98 days. Tenants averaged 43.3 years old and worked 130 days.

Among the entire group of 1381 who worked for wages in 1939, 422 worked less than 50 days, 180 worked from 50 to 99 days, and 779 worked over 100 days. There were 482 who worked on

1/ This income includes the value of products raised for home use, which accounts for the fact that the income bracket may be higher than the average cash income from sale of products.

other farms for an average of 61 days annually. Nine hundred eighty-nine worked at non-farm employment for an average of 166 days annually.

Forty per cent of the 2252 farms producing gross returns of less than $1500 produced more for home use than for sale. The value of production for home use represented 56.3 per cent of all farm income for 919 farms where products used by the farm household formed the major source of farm income as recorded in the census.

It is interesting to note that the value of products for home use increases quite steadily as the total income increases. The 514 part-time farmers securing gross farm incomes of less than $250 produced an average of $92.41 worth of goods for home use. In the case of those securing an average income of from $1000 to $1499, the value of products for home use was $205.35. For the commercial family farms producing gross incomes of from $2500 to $9999, the value of products for home use varied from $215 to $290. The larger farms had still more satisfactory home production programs, including more livestock.

No one should conclude from an analysis of facts and observations that all part-time farmers in Linn County or elsewhere have sub-standard total incomes. Those who have dependable jobs or cash incomes may earn good livings, and supplement their incomes with farm produce, low rents, and income from the sale of farm products. Many mill workers and people employed at retail or service jobs in Linn County benefit from such an arrangement. Data from their reports in the 1940 census tend to raise the average number of days of outside employment received per farm.

But a basic problem must be recognized. People with full-time jobs do not need farms, nor do they have time to devote to commercial agriculture. And farmers with appreciable farming responsibilities can seldom perform efficiently as both farmers and wage workers.

The man who has a job, and does a little farming on the side, often seeks security and obtains deep satisfaction from agriculture as an avocation. These sentiments must be respected. Most part-time farmers, however, are attempting, under conditions of adversity and economic instability, to obtain a bare living by cutting costs and getting income from all possible sources. Their problems appear in the following forms.

1. Their basic security is constantly threatened by the possible loss of outside employment. If the outside cash income is cut off the family is reduced to a poverty level. Such a condition immediately threatens the tenure status of the family. A very large number of the part-time farmers have bought their small units on

purchase contracts which require regular payments of interest and principal, or forfeiture of all savings and equity which are tied up in real estate. Even if the monthly payments seem small, they represent an overhead cash requirement which can only be met if outside income is obtained.

2. The farming phase of the enterprise is usually in conflict with the wage income phase from the standpoint of busy seasons. When the operator's labor can best be used at home, he finds that employers need him the most, and he must neglect his own small enterprise to work for wages. This is especially true of farm workers whose busy employment period coincides with the farming season at home. If the part-time farmer has a steady job in town, he faces a similar problem when the planting and harvesting peaks must be met. Some modification of this problem may be found when the family includes older children who can do much of the work. But these children will eventually leave home or obtain jobs for themselves.

3. It is virtually impossible to equip a part-time farm adequately without excessive overhead costs. Serviceable machinery is adapted for larger scale operations. Either a tractor or horses must be kept, or arrangements must be made for custom plowing and cultivating. Some farmers are able to make satisfactory arrangements, but they are in the minority. Most of the part-time farms are poorly equipped, and the handicap is reflected in the mediocre job of farming which is done. Farms under 50 acres in 1940 had equipment valued on the average of $314 in contrast to an average value of equipment from three to ten times that amount for farms of from 100 to 1000 acres.

4. No sources of credit or other resources have been available to enable the construction of satisfactory houses. Housing on part-time farms is frequently built by the farmer and his family and it typifies the flimsy, short-lived construction which has come to be called "jerry-building". These home-made houses may have a low initial cost, but the value received from any standpoint of measurement is usually unsatisfactory. Work and living space is sacrificed and the depreciation rate is high. Good workmanship and good materials are occasionally found but usually these are absent.

5. Financial management of the part-time farm involves a distribution of income between current needs for family consumption and capital investment. A part-time farm requires constant investment of funds for machinery, repairs, equipment, seed, feed, construction materials, livestock, fertilizer, and other items which presumably will give a deferred income. Revenues from these expenditures are by no means certain, however, and the outlay usually involves a real sacrifice by the family. People with low incomes can scarcely afford to make investments in risky enterprises. Enforced savings

required by payments on purchase contracts or mortgages are usually not warranted from the standpoint of ability to save. Nevertheless, such payments must be met.

These and other problems are reflected in wastage of resources, poor use of land, low incomes, high costs, insecurity, and poor housing and living surroundings.

Actually the part-time farm is an imperfectly defined agricultural enterprise. It is usually the result and symptom of economic distress rather than a satisfactory arrangement for production and living. The source of outside income is a factor of outstanding importance. This may be derived from intermittent urban employment, steady urban employment, seasonal farm labor, steady farm labor, custom work involving use of the part-time farmer's equipment, pensions, investment income, or several other sources. A proper definition of a part-time or subsistence farm would have to take into account the nature of the outside source of cash income. Good planning would require an evaluation of the reliability of this income. No sound part-time or subsistence farming pattern can be developed where insecurity prevails due to undependability of earnings from any major source.

The Income Problem of Farm Laborers

The 1940 census record shows that less than half of the farmers in Linn County hire labor. In all, 1536 farmers hired labor and paid a gross amount of $438,112 in wages or an average of $285.23 per farm. Two thirds of the labor was employed by the day, with 1004 farmers paying out an average of $184.46 for the year. The average payment for labor hired by the month was $420.10 per farm. The detailed figures are given in Table 17.

Table 17

Specified Farm Expenditures for Labor in Linn County

Specified Farm Expenditures	Number of Farms	Total Dollars	Average
Cash wages paid for hired labor (exclusive of household and contract construction work)	1,536	* $ 438,112	$ 285.23
Hired by the month	275	115,528	420.10
Hired by the day or week	1,004	185,198	184.46
Other hired labor including piece work and contract work	653	137,386	210.39

* Items making total are not mutually exclusive.

Source: 1940 Census of Agriculture for Oregon, County Table X, Page 23.

The problem of labor relationships on large farms is a complicated one, although the farmer himself is a self-employed laborer, and as such, should have a community of interest with all labor. But he is an employer also, and therefore occupies a dual position. He may very justifiably seek a parity wage income for his own labor, but if he does, he must logically support an effort on the part of his hired labor to gain a parity for tasks involving similar responsibility. The farm operator is a manager as well as a laborer, and he therefore should have compensation for his management activity and skill as well as a wage income for the labor he performs.

The Senate Committee on Education and Labor, generally known as the La Follette Committee, in reporting on Employer's Associations and Collective Bargaining in California, has made twelve specific recommendations regarding the agricultural labor problem in California. Although there are no large industrialized agricultural enterprises in Linn County, the increase in multiple farming and in the number of large farms indicates a trend toward large-scale farming operations involving basic policies governing labor relationships. With the stabilization of the family farm on a basis which will yield a relatively satisfactory labor income for the farm owner-operator, there will be an increase in the amount of work to be done by hired labor. Intensification through irrigation will also expand crop production of types requiring more labor per acre than the crops now being grown on much of the irrigable area. These factors all point to an increase in the importance of agricultural labor. Because of the special significance of the recommendations by the Senate Committee, they are attached as a supplement to this report.

Most of the extra labor on farms in Linn County is performed by members of the farm family. In March 1940, 2619 farmers reported employing 3706 persons belonging to the farm families with only 322 farmers reporting the hiring of 500 persons from outside sources. The detailed figures are shown in Table 18.

Table 18.

Record of Labor Employed on Farms in Linn County at Specified Periods, 1939 and 1940

Persons 14 years or over working the equivalent of 2 or more days during specified weeks	March 24-30, 1940		Sept. 24-30, 1939	
	Farms Reporting	Persons	Farms Reporting	Persons
Family labor	2,619	3,706	2,475	3,532
Hired labor	322	500	367	939
Hired by month	182	228	163	220
Hired by day or week	144	243	157	455
Other hired labor (including piece work and contract work)	17	29	74	264

Source: 1940 Census of Agriculture for Oregon, County Table X, Page 23.

Fruit farms paid the largest gross amount for hired labor in 1930. 193 fruit farms paid a total of $134,246 in wages during that year. The average payment of $695.58 per farm was not as large as the $1,105.40 paid by crop specialty farms, but the number of crop specialty farms was less than a third of the number of fruit farms. There were 570 general farms paying an average of $151.03 per farm, which was next in total amount to that paid by fruit farmers. The full tabulation is given in Table 19.

Table 19

Expenditures of Farms for Labor by Specified Types of Farming, 1930

Type of Farming	Farms Reporting	Total Expenditures	Average Expenditures
All types	1,510	$ 426,027	$ 282.14
Fruit	193	134,246	695.58
General 1/	570	86,086	151.03
Crop Specialty 2/	52	57,481	1,105.40
Cash Grain	132	44,583	337.75
Dairy	186	31,612	169.96
Poultry	98	25,792	263.18
Truck	12	2,709	225.75
Animal Specialty	95	22,528	237.14
Stock ranch	41	11,272	274.93
Abnormal and Unclassified	91	8,323	91.46
Self-sufficing	40	1,395	34.88

1/ Farms were classified as "general" where the value of products from any one source was less than 40 per cent of the total value of all products.

2/ Farms were classified as "crop specialty" where 40 per cent or more of the total value of all products was represented by the following: Sweet sorghum for syrup, sugar beets, soy beans, cow peas, velvet beans, field peas and beans, hay, potatoes, and other field crops.

Source: 1930 Census of Agriculture for Oregon, County Table VIII, Page 33.

It would require an extended treatise to cover the subject of farm labor adequately. However, certain basic principles can be discussed briefly. In broad outline, the ability to pay wages depends upon (1) the price received for the products produced for sale, (2) the volume of production and efficiency of operation, and (3) the ability of labor to get the increment which flows into land values. Where labor is unorganized and not in position to exercise sufficient pressure to force alternative adjustments in the rental or sale value of land, the latter method of increasing income is difficult. Control of supply under some

variation of the ever-normal granary concept is the technique available for price regulation in the interest of adequate wages. Labor must be in position to protect its interest in this regulated price by effective collective bargaining. If the worker is not able to protect his interests, the increased income will be reflected in land values rather than in wages. Furthermore the interests of both enterprisers and workers must be reconciled with the interests of consumers. Finally, protection of each of the interests mentioned can be obtained only under a broad program designed to create full employment for farmers and workers alike. An economy in which one-fifth of the workers are unemployed, and nearly half of the farmers are underemployed, cannot yield adequate profits, wages, and consumers goods even if they were well distributed. Under such restricted conditions, the least organized groups will be underprivileged.

If the farm-operator's interest were focused on his own labor return, the problem would be clarified at least in principle. The traditional objective has been to obtain ownership income. For most farmers, especially those who owe real estate debts, or rent their land, this income source is practically non-existent. They derive their living from labor and management returns.

Even if farm tenure were based exclusively on use-rights, and ownership income thereby removed as an object of competition, a conflict of interest would still exist between the operator and his hired labor over the distribution of the remaining components of income. A system of collective bargaining where the farm laborers would meet to study and discuss their problems and could act as a group in their own interest would promote a better understanding of their problem. Farm laborers and farm operators could well cooperate in maintaining price levels and other conditions on a basis which would yield a total labor and management income large enough to meet the demands upon it.

Since collective bargaining among farm laborers offers many difficulties due to the inherent instability of the farm labor group an alternative method of achieving fair wage standards might be found in extending the methods used through the Sugar Act of 1937 which sets up and enforces what are deemed fair and reasonable wage rates for sugar beet laborers.

The governmental bodies controlling the ever normal granary could determine the just returns for labor in various crops and enterprises and could enforce fair wage rates by the application of penalties analogous to those enforced in the sugar beet benefit payment procedures. This method of guarding against unjust exploitation of farm laborers has much to recommend it, provided always that the governing bodies maintain a fair minded and liberal attitude with respect to all of the interests concerned.

[illegible] primary concept is the tenacious [illegible] in the interest of adequate wages. [illegible] protect its interest in this regulated [illegible] bargaining. If the worker is not [illegible] interests, the concerned income will be re- [illegible] values rather than its wages. Furthermore the [illegible] If both employers and workers must be reconciled [illegible] the interests of consumers. Finally, protection of each of [illegible] farm designed to create full employment for farmers and workers [illegible]. An economy in which the of the workers are prosperous, and nearly half of the farmers are underemployed, cannot [illegible] adequate profits, wages, and [illegible] were well distributed. Under such restricted conditions, the [illegible]

If the farm-operator's interest were focused on his own labor return, the problem would be clarified at least in principle. The traditional objective has been to obtain ownership income for most farmers, especially those who own real estate debts or rent their land. This income source is particularly per- [illegible]

Then if farm tenure were based exclusively on use-rights, and ownership income already removed as an object of competition, a conflict of interest would still exist between the operator and his hired labor over the distribution of the remaining components of income. A system of collective bargaining where farm laborers would meet to study and discuss their problems and could act as a group in their own interest would [illegible] a better understanding of their problem. Farm laborers and farm operators could well cooperate in maintaining prices [illegible] and other conditions on a basis which would yield a total labor and management income large enough to meet the [illegible] wage [illegible].

[illegible] to the inherent instability of the farm labor [illegible] might be found in enforcing the methods used through the Sugar Act of 1937 which [illegible] and enforces what [illegible] fair and reasonable wage rates for sugar beet laborers.

The government could begin counteracting the over-normal supply could determine the fair bargaining for labor in various crops and enforce and could enforce fair wage rates by the exploitation of penalties are imposed to those enforced in the sugar beet benefit payment procedures. This method of providing [illegible] exploitation of farm laborers has much to recommend it, provided always that the government bodies maintain a fair minded and liberal attitude with respect to all of the interests concerned.

Cash wages are but one source of income. Housing and facilities for home production and preservation of food are elements of total income for farmers and farm workers alike. Where labor is hired by the month and housed on the farm, the problem is relatively simple. But much of the work on farms in Linn County is seasonal, and the total load is made up of jobs on many farms requiring work for short periods only. This work must be done by laborers who are not tied down to any one farm but are available for work wherever they are needed. The housing of this group is a special problem. One avenue of solution has been explored in the Farm Security Administration migratory labor camp program. The results, generally speaking, have been beneficial. A more permanently constructive approach will probably be obtained through measures which enable workers to have stabilized residences in farm communities. The wisdom of creating a regional economy which requires the seasonal migration of large numbers of farm workers must be questioned.

Income From Forestry in Linn County

No industry in the Pacific Northwest offers a greater opportunity for constructive social and economic action than forestry. It is a primary industry yielding a valuable raw material which forms the basis of much of the manufacturing activity in the Northwest and accounts for a large percentage of total employment when service industries, dependent upon forestry, are added to those directly concerned with the production and fabrication of forest products.

As a source of raw materials the forests of Linn County are on a par with agriculture. In 1940 the value of forest products exceeded the value of farm production by more than 20 per cent; but in that year the cut of logs exceeded the estimated sustained-yield figure by more than 30 per cent. A sustained yield of 247,000,000 board feet at a value of $21 per thousand would be worth $5,187,000 as lumber, which is slightly less than the $5,640,000 value set by the census as the total value of all crops, livestock and livestock products. If a portion of the cut were figured as plywood and paper pulp, the forest figure would be appreciably increased. But in that case it would be reasonable to add the value of processing, canning, meat packing, and the like to the value of farm products. In any case, the values coming from the forests and the farms are roughly comparable. Together they form the basis of the county economy.

There were 1685 persons employed in logging and milling operations in Linn County in 1940. This does not include those who are engaged in transporting logs, nor does it account for those employed in milling Linn County logs in areas outside the county. On the basis of eight persons per million board feet for logging and milling and adding men for hauling and dependent services, it would require approximately 3084 men to handle the 323,000,000 board feet harvested in 1940. This is somewhat less than the number employed in agriculture.

The primary employment in forestry and in agriculture together accounts directly for more than half of all employment in the county. Furthermore, all but a small minority of the balance of the working force in the county are dependent upon the income arising from the activities in these two primary industries. If agriculture and forestry were withdrawn from the county, most of those who remained would be employed in providing transportation facilities for those who wanted to cross the area.

Trends of Cutting and Liquidation

The amount of timber cut in the forests tributary to Linn County is growing rapidly as shown in Table 20.

TABLE 20

Log Production - Linn County for Selected Years

Year	Thousands of Bd. Ft.
1930	78,725
1935	96,088
1936	128,542
1937	182,618
1938	128,510
1939	212,124
1940	323,202

The cut in 1940 was more than four times that of 1930 with the big increase coming after 1936. The record since 1940 is not available, but at the present rate of cutting it may exceed 500,000,000 board feet in 1942. The rapid increase in cutting since 1939 is due directly to the war, but the more remote cause is the general pattern of forest depletion in the Douglas fir region of western Oregon and Washington.

Depletion of Stand

Linn County contains some of the more remote stands of Douglas fir and like all remote territories, its exploitation was postponed until more accessible areas had been developed to capacity. The most accessible and, as it happened, the best quality and most easily logged timber in the Douglas fir region was adjacent to tide water. Where water transportation is available, shipment of lumber and manipulation of logs is comparatively easy. It was on or close to tide water, therefore, that the great producing centers of the Pacific Northwest's lumber industry were established. Portland is such a center as are Everett, Tacoma, Bellingham, Aberdeen, Hoquiam, and Marshfield. The names of Puget Sound, Grays Harbor, Willapa Bay and Coos Bay are significant because water transportation made them accessible.

Centers such as these are fixed. All of them are cities of considerable size, impossible to move. Whenever nearby timber stands were depleted, logging operations went farther and farther afield. It is true that modern methods of transportation have, in effect, brought the log supply closer to the mill, but there are limits to the distances over which logs can be transported for milling. Once these limits are reached, the mills dependent upon more remote stands either shut down or are moved closer to the log supply. The movement of effective milling capacity from depleted parts of the Douglas fir region is the remote cause of the recent increase of lumbering in Linn County.

Figure 4

KEY

AREAS SUITABLE FOR EARLY IRRIGATION DEVELOPMENT

Gravity from North Santiam	26,050	Acres
Pump from Wells or Streams	66,050	Acres
Pump or Gravity from Muddy Creek	24,450	Acres
Total	116,550	Acres

Areas possibly suitable for ultimate irrigation development. (Source: U.S. Army Engineers)

Existing Irrigation Districts

Reservoir Sites on Santiam and Calapooya River

Alternate Reservoir Sites

N

IRRIGATED AND IRRIGABLE AREAS
OF LINN COUNTY, OREGON

FARM SECURITY ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE
PORTLAND, OREGON

4 0 4 8
SCALE OF MILES

JULY 1942

The production units in the Douglas fir region, of which Linn County is a part, can be drawn on a map with considerable accuracy because they are self-contained. Significant quantities of logs do not move from one production unit into another, although along the fringes where two production units join there is often an area of unsettled status from which logs can be taken into either unit. However, the production unit is a natural unit, properly so-called. Certain aspects of the Douglas fir lumber industry can hardly be described except in these terms.

Timber stands in the Puget Sound, Grays Harbor, and Lower Columbia River production units are in advanced and serious stages of depletion. These three units include most of Washington's Douglas fir region. The result of their depletion is a gradual shifting of lumber production from Washington southward into Oregon. This has been obvious to foresters for quite a while, but the first tell-tale sign that everyone could see was hung out in 1941, when Oregon surpassed Washington for the first time in Douglas fir production and became the foremost lumber producing state.

The increased cut in Linn County is due to this southward migration. Table 28 seems to show that the increase is caused by war, and this is the immediate cause. If the mills at Puget Sound still had an ample supply of logs, however, war production would have expanded there rather than in the less accessible stands in Linn County and other upper Willamette Valley points where past production has been nominal.

The more accessible timber in Linn County is in private hands, and an increased cut is inevitable. The first stage in the depletion process has begun. It is a familiar process which has been repeated in one and then another of the timber producing regions of the United States. The forces which induce depletion of private timber stands have been widely discussed and are fairly well known, at least in general terms, and none are known to be absent in Linn County.

Forest depletion is the result of a complex series of conditions, some of which have their origins in earlier public policies. As soon as timber land passed from the public domain into private ownership it immediately became subject to the intent of the owner to make a profit, and to the circumstances which affect private property. It could be taxed; it could be bought and sold; it could be regarded as an investment, as a speculation, or as an operating property. It could be consolidated into large holdings by large owners or retained in panels by small ones. If a forest fire burned it up, the investment, the speculation, or the operating property was gone. It could not be insured, but its value could be eaten up by interest. Sooner or later, however, the individual owner's necessity either to make a profit or to reduce loss would manifest itself in an attempt to liquidate and get the money out.

[illegible]

[illegible] Thus one procedure will be a number, [illegible] along the margins of the production units [illegible] there is often an area of [illegible] forests from which logs can be taken into other work. However, the production unit is a natural unit, properly so-called. Certain aspects of the logging in Lower Industry can usefully be described [illegible]

Timber supply in the Pigeot Sound, Long Harbor, and Lower Gulana River production units are in excess and serious shortages are developing. [illegible] the [illegible] of Lower Gulana Sound's Dan Jes the region. The result of this shortage is a general scrambling of lumber production from [illegible] for southward into Oregon. This has been obvious in Sunnyvale for quite a while. [illegible] Pigeon Sound [illegible] for the [illegible] Dan Jes the production and keeping the [illegible] lumber production [illegible].

The increased cut in Lower Gulana is due to this [illegible] [illegible]. [illegible] the increase is caused [illegible]

Pigeon Sound still has an ample supply of logs, however, our production [illegible] in the Lower [illegible] Jes [illegible] other upper [illegible]

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[illegible] involved. The [illegible] in the [illegible] process has begun. It is a [illegible] process which has been repeated in one and then another of the timber producing regions of the United States. The [illegible] which [illegible] of primitive timber [illegible] have been [illegible] and are fairly well known, [illegible] in general terms, and [illegible] are known to be [illegible] in Jes County.

Forest depletion is the result of a complex [illegible] of conditions, some of which have [illegible] in our [illegible] [illegible]. As soon as timber land passes from the public domain into private ownership it immediately becomes subject to the interest of the owner to make a profit, and to the [illegible] [illegible] [illegible] property. It could be used; it could be [illegible] [illegible] a mold; it could be [illegible] or a [illegible], or a [illegible] [illegible] operating property. It could be converted into [illegible] [illegible] by large owners or reduced in [illegible] by small [illegible] [illegible] [illegible] the investment. It could [illegible] [illegible] [illegible]

As far as the private owner is concerned, the ultimate source from which money can be obtained for timber is the manufacture and sale of wood products. Without many exceptions, logging under private ownership is a liquidation process and the rate at which it proceeds is not governed by the rate at which timber will grow. It is governed rather by economic and physical conditions that determine how large a sawmill should be in relation to the owner's timber supply. But these conditions have no relation to the growth of timber. Lumbering liquidates timber already grown, not timber which will grow in the future.

Since it is common for a number of independent, unrelated ownerships, all in one locality, to be liquidated at the same time, the timber in that locality is cut faster than it will grow. The forest is finally depleted. Production slackens; mills shut down; men are thrown out of work; and forest land, stripped of immediate values, is abandoned and forfeited for tax delinquency. The period of liquidation is a period of high production and local prosperity. "Shack-fringes" appear in the periphery of existing towns. Population increases rapidly and the new residents require expansion of schools, roads, sanitary facilities, and other public services. When liquidation is over, the process goes into reverse. Population shrinks, the "shack-fringe" is deserted, the public improvements fall into disuse, and the county finds itself in possession of stump land requiring protection but yielding little income for two generations.

This, in general, is the history of lumbering in the United States. It occurred in the Lake States and in the South. Now that it has begun in Linn County there is no reason to suppose that history will not repeat itself unless circumstances alter actions and policy. The county has more than 500 different timber owners, large and small, and most of these will unquestionably grasp the opportunity to liquidate.

While it is impossible to predict when Linn County will begin to lose its forest industries, it is possible to predict the limits of its shrinkage. Unless there is a catastrophe of some kind, the timber in the national forests, the revested land grants, probably the state lands, and a limited amount of private land will be managed for continuous output and the county's forest industry will not drop below what this output can support. According to the Forest Service calculations, the sustained production of these ownerships will be about 108 million board feet per year (see report attached.)

This backlog of timber in the National Forest and under the O&C administration will cushion the final effect of overcutting of privately-owned timber. The public and private timber areas are delineated on Map 4. Private owners possess 42 percent of the total area in timber in Linn County and 53 percent of volume of timber in board feet measure. The publicly-owned timber is distributed among local, state and federal governments, as shown in Table 21.

Table 21 — Distribution of Ownership of Forest Land and Timber in Linn County Among local, State and Federal agencies. (Excludes private holdings)

	Area in acres	Percent of total area	Timber volume in thousand of bd. ft.	Percent of total volume
Total	537,066	100.00	14,440,084	100.00
County	2,671	.50	36,548	.25
State	60	.01	3,892	.03
Total Federal	534,335	99.49	14,399,644	99.72
Revested Land Grants	50,435	9.44	1,720,853	11.95
National forest available	480,990	90.02	12,668,165	87.98
Other Federal	2,910	.54	10,626	.07

From this, a rough idea of Linn County's forestry future can be obtained. In the neighborhood of 500 million board feet are being cut there are present, and cuts of this general size (perhaps much larger) will prevail for an indeterminable period. Then production will shrink and finally level out somewhere near 100 million board feet per year. This level will prevail until the cut-over land produces commercial-sized timber again. Employment in logging and milling will be reduced to 1000 when that time comes.

Effect of Present Conditions on Employment

Linn County will unquestionably desire both the largest possible permanent employment base to assure the future of the community as a whole, and continuity of jobs to secure and protect the individual. These desires are normal, natural, deeply rooted, and are among the inevitable objectives of mankind. However, they are unattainable through liquidation of private timber.

First, liquidation and its attendant losses produce large-scale fluctuations in the total employment base.

Second, the liquidation process necessarily ignores resources and activity which will not contribute to net earnings. Consequently, protecting such resources as wild life and developing facilities for public recreation are not undertaken by private owners. Yet such resources as wildlife and recreation resources have definite values to the general public and offer opportunities for employment.

Third, roads and other improvements that are made to open a tract of timber for liquidation are temporary in character and are largely abandoned when liquidation is finished. In con-

trast with this the forester envisions treating a forest property as an estate. He would provide improvement to make it permanently accessible throughout and permit better protection and more intensive use of all resources. These developments are important sources of employment.

Fourth, the liquidating owner can not undertake reforestation and such cultural practices as thinning and pruning. The values created by this kind of work can be realized only in the future, whereas the purpose of liquidation is to realize present values. Much work of this kind, if carried out on a planned basis, could be delegated to the time of year when forest work is ordinarily reduced by bad weather and so help replace short-term with year-long employment.

Fifth, the public forests, though superior to private lands, are far from satisfactory, with respect to development, reforestation, and cultural operations. The possibilities for employment in development, maintenance, and improvement have never been realized on anything approaching the scale the Forest Service has set forth in its appendix report, which is attached. The public forests, moreover, have not solved as yet the problem of transforming their short-term personnel, employed in fire protection work, construction and maintenance, into year-long employees. The problem of leveling out seasonal employment peaks has not been solved. This could be done in a large degree if funds were made available for cultural work and certain kinds of wildlife and recreation improvements.

It is apparent that under the current system of liquidation of private timber and without better support of public timber, the full employment possibilities offered by the forest are not and can not be realized. The total employment base fluctuates with the phases of depletion.

POSSIBLE ADJUSTMENTS IN AGRICULTURE TO PROVIDE FULL EMPLOYMENT AND ADEQUATE INCOMES

The Significance of Full Employment for Farmers

The conception of full and effective employment usually is not applied in an analysis of the agricultural enterprise. The assumption is made that farmers are always busy and that work of one kind or another on practically every farm requires the full labor force which is available.

The mechanization of agriculture, and the improvement of management and planning, require a re-examination of any such assumption. Consumers have a direct interest in the efficiency of farm production. A farmer who devotes his full year's time to the production of $1,000 to $1,500 worth of products cannot be regarded as an effective producer. An increasingly larger proportion of all farm commodities is being produced under conditions of mechanization and good planning. The large group of farmers who do not make use of these modern techniques are forced to accept low annual earnings and levels of living.

This problem has attracted the attention of leading farm economists and rural sociologists throughout the country. Two different viewpoints have arisen. One viewpoint is to the effect that agriculture must adopt the methods and machines which will produce food and fiber with an efficiency corresponding roughly to that found in manufacturing and industrial enterprises. The other viewpoint holds that farming is a cultural as well as economic enterprise and that it cannot be measured too drastically against efficiency standards. The rural environment and the family farm responsibilities tend to produce qualities in people and basic satisfactions which would justify the retention of less efficient methods. It is also claimed that the family farm can be managed efficiently and cooperative relationships might very largely remove the competitive disadvantages which exist when family farms are compared with larger scale agricultural units.

The conversion of this into effective employment usually is not applied in an analysis of the agricultural economy. The assumption is made that farms are always busy and that work of one kind or another can profitably occupy farm families the full labor force which is available.

The reconstruction of agriculture, and the improvement of management and planning, results in a re-examination of any such assumption. Can there have been a direct increase in the efficiency of farm production. If farmer who developed his family's total labor to the production of 1,000 to 1,500 worth of produce could be regarded as an efficient producer. An increasingly large proportion of all farms nationally is being managed under conditions of economic depression and poor planning. The large group of farmers who do not earn two of these problem-techniques are forced to accept low annual earnings and lower of living.

The problem has accentuated the attractiveness of farming from centers like and rural communities throughout the country. Two different viewpoints have arisen. The viewpoint is to the effect that industries must seek the rationalized methods which will produce food and fiber with an efficiency commensurate to bring to their learn to manufacturing and industrial workers. The other viewpoint holds that farming is a cultural as well as economic enterprise and that it cannot be measured too drastically applied efficiency measures. The rural movement and the family farm recognizes the need to produce qualities in people and basic satisfactions which would justify the retention of less efficient methods. It is also claimed that the family farm can be managed efficiently and cooperatively relationship might very largely remove the competitive disadvantage which exist when family farms are compared with larger scale agricultural units.

Regardless of how these two viewpoints may eventually be reconciled, full and effective employment of rural people as well as urban people must be a post-war objective. Farmers are entitled to a fair share of the commodities and services which the nation has capacity to produce. They must have the opportunity to earn their share. Such an objective is necessary if the disadvantaged position of farmers, as compared with industrial workers is removed. Farmers cannot be expected indefinitely to accept payment for their work at levels from 30 to 50 per cent below the annual earnings of urban people, despite the fact that special satisfactions appear to be involved. Unless the basis for full and effective employment of farmers can be provided, the only method of raising incomes of farm people to an adequate level would be through subsidies either direct or in the form of artificial price supports. It seems more logical to attack the problem at its root and to consider the possibilities of obtaining full employment through better distribution of productive resources and the improvement of management.

In the discussion which follows, redistribution of farm land is considered as a measure for promoting full employment. The necessity or desirability of such a measure may not be accepted immediately by many because a redistribution of land does not, in and of itself, increase the aggregate farm income. It does, however, build a foundation upon which aggregate community income can be increased. Two pertinent facts stand out as evident truths:

1. The numerous small farms in Linn County do not provide sufficient work opportunities adequately to employ the operators. In the case of a large number of small holdings, upon which families depend for their living, the farmer is not occupied for more than 120 to 150 days a year in his farming operations. This is in effect rural unemployment associated with poverty.

2. The limited purchasing power of these low income farmers reduces their effectiveness as buyers on the market. These small farmers, like hundreds of thousands of farmers facing similar circumstances elsewhere, form an integral part of the consuming public. As low income families, they contribute little to the outlet for goods and services, although their needs are great.

These conditions are incompatible with the objectives which must be sought if a vigorous economy prevails during the post-war period. A peace time program will be relatively ineffective if it accepts chronic situations of this type in the foundation of economic life. Just as industry has the responsibility of providing the basis for full employment and security to wage earners, agriculture must face the problem of distributing basic resources in such a way that most farmers can obtain satisfactory

[illegible]

incomes and security of tenure with reasonable expenditure of labor and competence of management.

Those farmers who have enough land can be effective in the market and they can maintain an American standard of living. A basic readjustment in agriculture must tackle the problem of land distribution among other farmers. If large operators have at their disposal considerably more land than they need and if they are constantly enlarging their land base, the welfare of other farmers is clearly affected. The remaining land can never support on a satisfactory basis a multitude of part-time and subsistence operators whose numbers are constantly increasing. Within the limits of the resources of a community, its capacity to produce and consume depends upon the ability and opportunity of its people to work effectively. If many people are ineffective, the total result will be meager. If most of the people can be energetic and efficient, an ample supply will result and so-called "good times" will prevail.

The analysis which follows uses gross income as a common denominator of productive capacity rather than such a physical measurement as acreage combined with land productivity ratings. The method is inexact but it is considered valid for the purpose of illustrating an approach to this basic problem.

Illustration of Large Unit Subdivision

As a group, farmers in Linn County who received gross returns of $10,000 or over had total gross returns, including value of products consumed on the farm, in 1940 of $1,090,549. Their average gross returns were $20,437. The trend is such that a still greater proportion of agricultural production in Linn County would be expected from these larger scaled farms in the future. The operating base for other farmers is being narrowed, they are under pressure to join the subsistence and part-time farming groups.

One obvious approach to a solution of this problem would be to place in effect some type of program which would enable more families to be supported at an adequate level by the returns from these larger units of agricultural production.

As an illustration, it would be possible to put into effect a modified subdivision plan which would enable 100 additional families to obtain their economic support from this segment of production. There are at present 54 farmers in this large income class. Assuming that a total group of 154 farmers produced $1,090,459 gross income, the original 54 could still receive average gross incomes of over $10,000, some more and some less, while 100 new farms would have average gross returns of $5,000. Table 22 summarizes the situation which might result.

[illegible] an area of [illegible] with reasonable expectations and consequences of [illegible].

These farmers who make enough land can be effective. We are [illegible] can [illegible] an [illegible] economy of [illegible]. A [illegible] management in [illegible] and [illegible] the [illegible] of [illegible] [illegible] among [illegible] farmers. If large [illegible] are [illegible] [illegible] considerably [illegible] land [illegible] they need and it [illegible] [illegible] [illegible] their land [illegible]. [illegible] [illegible] farmers [illegible] [illegible] effects. The [illegible] [illegible] [illegible]

Table 22

Possible Change in Number of Farms in Linn County by Subdivision of Farms Producing Gross Returns of Over $10,000 - 1940

(figures include value of products directly consumed by the family)

Situation in 1940			Situation after Subdivision		
Number of Farms	Average Gross Returns	Total Gross Returns	Number of Farms	Average Gross Returns	Total Gross Returns
54	$ 20,437	$1,090,459	54	$ 10,934	$ 590,436
			100	5,000	500,000
Total 54		1,090,459	154		1,090,436

Such a measure might disrupt to some extent the larger scale operating patterns which have been established. Considering the fact, however, that multiple farm operation is the form in which the large scale trend appears in Linn County, some action along the lines illustrated above would appear to be feasible and beneficial. More families would be provided with the basis for earning full and adequate incomes. Since they undoubtedly would be recruited from the experienced operator class, no appreciable decline in gross production would be anticipated.

Readjustment of the Land Base for Family Farms

There were 989 family farms producing gross returns ranging from $1,500 to $9999 in 1940. The purpose of any readjustment in the land base for these farms would be to strengthen weaker and smaller sized units so that full and effective employment of labor and management capacity could be obtained.

Available evidence points to the fact that a family farm must yield a gross income of from $2500 to $5000 to make a net cash return of $1500 for the owner-operator who is free of debt. Naturally there are many variables. The income of the mortgaged owner would need to be higher than that of the owner-operator who is free of debt. Also, different types of farms involve higher costs. Table 21 gives some theoretical figures on this point, presented before the Tolan Committee of the House of Representatives by C. B. Hutchinson, Dean of the College of Agriculture of California. These figures show that a sugar beet grower must have 31.1 acres producing $100.50 per acre, or a gross income of $3,125.85, to produce a net income of $1500. A barley grower, on the other hand, must have 371.2 acres producing $17.39 per acre or a gross income of $6,455.16 to produce a net income of $1500. The other illustrations fall between these two extremes of gross income necessary to yield the $1500 figure.

The $1500 figure is a somewhat arbitrary standard but it meets the requirements of this analysis, which is to strike a rough trial balance for Linn County. That the figure is significant is indicated by the results of a study by the Bureau of Home Economics of the United States Department of Agriculture, covering the expenditures of over 15,000 farm families located in nineteen states in the South, the East, the Middle West, and the West.

Table 23

Gross Income Needed to Make a Net Cash Farm Income of $1500 Where the Farmer Owns His Land

Crops Raised	Gross Income Per Acre	Number of Acres	Gross Income per Farm	Per Cent Hired Labor
Walnuts	$ 100.00	22.4	$ 3,360.00	52 %
Apricots	240.71	21.7	5,223.40	72
Peaches	212.60	24.8	5,272.48	72
Barley	17.39	371.2	6,455.16	50
Sugar Beets	100.00	31.1	3,125.85	72
½ Alfalfa, ¼ Cotton, and ¼ Sugar Beets	73.20	65.3	4,799.55	55

Source: Tolan Committee Hearings. Dean C. B. Hutchinson, University of California.

In these accounts the record of "Change in Net Worth" showed a loss when the net family income dropped much below the $1200 a year mark. In Northern California, families receiving $1117 per year ($674 of which was supplied by the farm in rent, food and fuel) saved $82. In Iowa, families receiving $1112, with $476 furnished by the farm, showed a decline in net worth of $38. In California, families receiving $1123, with $290 furnished by the farm, showed a net decline of $151. Families in the $1000 to $1249 income class in New Jersey, Michigan, Wisconsin, Illinois, Iowa, Kansas, North and South Dakota, Colorado, Montana, and California showed a loss in net worth. They apparently preferred to sacrifice their inventory value rather than cut down their living expenses. Families in the same class in Vermont, Ohio, Pennsylvania, Washington, Georgia, Mississippi, and North Carolina saved from $26 to $83 during the year. Families in all of these states, with the exception of Mississippi, showed a decline in net worth when their incomes dropped to the $750 to $999 class. Families in Mississippi receiving an average income of $870 made a saving of $9. In New Jersey, on the other hand, families in the $1250 to $1499 income class, with an average income of $1269, showed a decline in net worth of $45.

Clearly there is a point at which families prefer to sacrifice possible future security for immediate needs. It seems apparent that a program organized on the basis of an income below an

acceptable level has little chance of either financial or social success.

It is not the purpose of this report to set a minimum standard. Conditions after the war demand a marked rise in the level of living of all low income groups, and to set a minimum acceptable income as a standard would represent an acceptance of scarcity as a guiding principle. Neither is it the intention to set an unreasonably high level as an average. A $1500 cash income is taken here as a reasonable minimum, certainly compatible with the American standard of life. Adding the value of production for home use and house rent, the average income might be in the neighborhood of $2000 for a farm family owning a debt-free farm.

In summary of this point, and without arraying additional data which might support such a conclusion, it is assumed here that $1500 is a reasonable net income objective for family farms, and that gross returns of from $2500 to $5000 under Linn County conditions are required to provide that level of net income.

In view of the objectives sought, and for purposes of illustration, no change might be suggested in the number of farms producing gross incomes of from $6000 to $9999 nor in the number of farms producing from $4000 to $5999. These classes of farms had average gross incomes of $7496 and $4844 respectively. It is assumed that these farms are in line with the standards of net income which must prevail in the post-war period if idle men and idle factories are to be avoided. Any program of consolidation and land distribution undoubtedly would contain measures which would enable any desirable consolidation or subdivision of land among these groups. For purposes of this discussion, however, these farms are left intact.

It will be noted that 307 operators received gross incomes ranging from $2500 to $3999. Some of these farms undoubtedly produce insufficient income to maintain a proper level of consumption. Some would require additional acreage to permit full and effective use of farm family labor. 100 farms have been deducted from this group as the number which might obtain full sized units in the redistribution of large farms considered previously. The 207 farmers who form the balance of this income group would then produce an annual gross income including goods consumed by the family of approximately $950,000. The average gross returns in such a case would be slightly over $4500, or fully consistent with full employment and earnings standards.

The 423 remaining farmers receiving gross incomes of $1500 to $2499 might be divided into two groups with the objective of consolidating and redistributing resources. For purposes of illustration, average gross income objectives of $4000 and $3500 are established. 306 farms are placed in the first group, and 117 in the second group. Total of gross returns after readjustment would then exceed by about $800,000 the amount previously received by farmers in this income class. The additional land upon which

this added income would be based might be obtained through the consolidation of farms below the $1500 gross income point. Or lower gross returns might be found to be consistent with adequate net income levels. The possible effects of such a consolidation program in terms of numbers of farms and gross incomes are broadly summarized in Table 24.

Table 24

Possible Effect of Consolidation of Family Sized Farms Producing Gross Returns of Less Than $3500 Upon the Total Number of Family Farms in Linn County

(figures include value of products directly consumed by the family

Situation in 1940			Situation after Consolidation		
Number of Farms	Average Gross Returns	Total Gross Returns	Number of Farms	Average Gross Returns	Total Gross Returns
86	$ 7,496	$ 644,489	86	$ 7,496	$ 644,656
173	4,844	838,154	173	4,844	838,012
307	3,124	959,262	* (100)	5,000	*
			(207	4,500	931,500
423	1,949	824,637	(306	4,000	1,224,000
			(117	3,500	409,500
989	3,303	3,266,542	989	4,093	4,047,668

* Absorbed in the subdivision of large farms.

This illustration brings to mind several questions:

1. Does a farm enterprise big enough to support an American family on a decent level require considerable outside labor?
2. Or will greater use of machinery suited to the family farm take the place of outside man labor?
3. Can distribution and other costs be reduced so that less gross income is required to produce a $1500 net income?
4. What acreage of good soil fits the idea of $4500 gross income?
5. Can American agriculture allot 80 to 120 acres of good land, or its equivalent of poor land, to each bona fide farm family?
6. Or must there be a basic reorganization of the industry to enable more people to live decently on the same land base?
7. Would a reduction of land values, interest rates, and taxes enable more people to live on the land?

This brief analysis cannot explore the answers to these questions. Eventually they must be answered in terms of sound policy and good leadership. The trend in Linn County is in the direction of a

skewed distribution of land, with part of this basic resource greatly overloaded with people. They cannot possibly live at satisfactory levels. Price supports which would give them enough income per family would put large operators on easy street. The basic solution must be sought through other measures.

Increasing Farm Income by Better Management

The major factors which have a direct bearing upon the income status of farmers, assuming a constant price level, are access to physical resources and management. The advantages which are being progressively obtained by larger agricultural enterprises are in terms of these factors. Larger units of land are being farmed under management programs which obtain greater efficiency in the use of labor and machinery. Improved management includes better choice in the distribution of capital investment, better management of credit, application of superior crop and livestock management practices, the use of fertilizers and crop rotations, and better handling of the disposal of farm products.

A criticism might well be made that any plan which would enable small farm operators to farm additional land might well result in a decline of total output, since the quality of management by larger operators tends to be superior to the quality of management applied by smaller operations. The difference in quality of management is not attributable wholly to the information or training possessed by poor farmers as compared with other farmers. The fact has been recognized during recent years that possession of resources and a fairly ample supply of liquid capital or credit is necessary in order to achieve good farm management. The relation between credit and management has been demonstrated by such agencies as the Farm Security Administration, the Farm Credit Administration, and numerous private lending agencies which extend both credit and management supervision.

The future of the family farm depends to a large extent upon the ability of middle and small sized operators to improve their farm and home management. Under present-day conditions, the margin between production costs and sale prices of farm products is so narrow that improved management appears to be an elementary requirement placed upon most farmers if they are to survive. The owners of large farms are able to purchase management service, or provide it directly as the special function of the active operator. Some larger farm enterprises provide managers and specialists of their own who keep in close touch with the work which is being done by various State and Federal experiment stations. The success realized in providing management service for both major commercial farms and those at the other end of the line through the Rural Rehabilitation program, leads logically to the idea that family farm operators should benefit in a like manner.

This suggestion does not imply supervision in the sense that the management responsibility of the farmer is lessened. Rather it is a rendering of service to build up and strengthen the

operator's ability in this field. Responsibility must remain in the hands of the individual and the community.

The factors involved are too complex to be considered in detail here. A serious problem is presented by any suggested increase in State or Federal aid. The final answer may involve reorientation in policies and patterns of credit service and tenure. The important fact is that improved management is badly needed. Improvement through whatever means would greatly strengthen the family farm pattern which is now losing ground. Management service can be provided on a sound basis if policies are adapted to that end.

It is difficult accurately to appraise the possible effects of the various types of improved farm management techniques. Experience in the Farm Security Administration program indicates that a 10 per cent increase in net returns might be anticipated under conditions where minimum adequate credit is extended and improved management is obtained through supervision based upon annual preparation of farm and home plans. The increased net return would be the result of both an increase in output and a reduction in cost without substantially greater use of labor.

The field of management is so broad and basic that it clearly embraces not only the techniques and methods which are used in the internal organization of a farm enterprise, but also the relationship of the farm to other farms and to the community. The reduction of overhead costs and the improvement of efficiency obtainable through the cooperative ownership and use of heavy machinery, breeding stock, and common market outlets are illustrations of this point. The capacity of land to support farm families on an adequate level may be greatly increased through the full use of cooperative relationships and techniques. The provision of medical service, purchasing and marketing service, cooperative credit service, and cooperative use of heavier equipment and breeding stock might well enable smaller farmers to have advantages which are now associated with large scale farming.

Any program which intends to provide full employment and adequate incomes must consider this elementary factor of management. It would appear in Linn County that the broad lines of action which would tend to improve management would be:

1. Exploration of supervision and farm management guidance as a service needed by a majority of farmers in the area.
2. Definite correlation of management service with credit facilities and programs.
3. Extension and development of cooperative relationships.

Comments upon Land Values and Farm Tenure

Any action which deals with land distribution and farm improvement must cope with the auxiliary problems of land values and tenure. What farmers want and need is the opportunity to get the use-rights of land at prices which will enable them to make

acceptable labor and management incomes through wise husbandry and reasonable diligence. The accomplishment of this aim is not a simple matter. Various forces over which farmers have been able to exercise little control tend to thwart this basic desire.

In the first place, land values tend to reflect all income above a low wage rate. These values are the basis for real estate debts and farm purchase contracts. People who try to buy farms on long term contracts have to pay high annual charges from low labor incomes. A prospective farmer faces this situation in attempting to establish himself as an owner-operator.

Lower rates of interest and long-term payments are boons to the farmer only if land values do not rise to absorb the savings. Easier credit is a two-edged sword. It tends to raise land values to a point where the immediate advantages of lower rates of payment and interest are wiped out. Rates of interest and values are two counterparts of a single situation.

Crop control programs which stabilize the market value of farm products tend to attract competition for land which has an allotment base. The competition of farmers for land under these conditions not only raises the purchase price of land but the rental as well. Competition for land forces the wages which a farmer can make to a low competitive level.

During recent years the possibilities of obtaining more security and more equitable tenure conditions through improved forms of leasing have aroused increasing interest. In general the accumulation of savings by farmers through payment on farms has been a disappointing venture. Fluctuations in land values may wipe out savings and cause insecurity of tenure. If it is recognized that buying a farm out of income is a life-time undertaking, and a hazardous one, the consideration of alternative types of tenure is logical.

Two general methods of approaching this problem have attained some prominence. The first is ownership of land by non-profit agencies such as community associations, which may administer such land under improved types of leases. These leases may contain variable annual payment clauses which adjust the annual rent in view of incomes. They may also provide for land conservation and improved farm management measures. The leases may be renewable as long as the operator is industrious and diligent. The effect of such a form of tenure is to remove land ownership income as an object of competition, and to eliminate the situation where excessive land values, and real estate debts based upon such values, threaten security and reduce family incomes.

The exploration of such a type of tenure might well be included in agricultural programs which would be contemplated in Linn County.

A second method of approach to the land value and tenure problem

[illegible] become through wise husbandry [illegible] owners.

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The organization of such a type of tenure might well be included in agricultural programs which would be contemplated in Linn County.

[illegible]

might be obtained through measures which would stabilize land values at proper levels. Excessive fluctuations in the value of land cause serious distress. Almost invariably excessive values become the basis for debts that are not repayable over a period of years. The direct result may be loss of savings and tenure by operators who owe the debts.

Stabilization of land values would require an evaluation of all claims against farm income, including:

(1) family living costs	(4) housing costs
(2) operating costs	(5) depreciation
(3) land conservation costs	(6) land ownership costs

Such costs vary from farm to farm. One's first reaction is to believe that no definite relationship between them can be established. The principle can be accepted, however, that each major cost must be recognized. Real estate contracts used in the Farm Ownership program of the Farm Security Administration recognize these cost factors, and adjust land values and annual real estate payments accordingly.

The cost of adequate housing for rural people is not properly recognized by existing land valuation levels. There has been a tendency to capitalize farm income into land value in a way which ignores the fact that farm families must have houses to live in. Well improved farms often sell and rent for little more than poorly improved farms. The cost of bare land, plus the cost of improvements usually exceeds by a good bit the sale price of an improved farm. Most sets of farm buildings, fences, and wells on established Linn County farms cost in excess of $5000. Together with 80 acres of good soil at $100 an acre the total cost would be $13,000. Yet few appraisers would value such a farm at over $10,000. Such a situation indicates that basic land values are too high, and that the cost of proper facilities is not recognized.

Increasing Farm Income by Irrigation

Irrigation is a method of increasing the land base by making existing land areas more productive. It represents a traditional type of expansion available for use when the demand for farm production presses on resources. Increasing the land base to meet an increased market demand for production is one thing. Increasing the number of farms to accomodate more families on land is another. The two are not necessarily related.

What is most needed now (barring war economic factors) is a reorganization within agriculture and industry which will expand purchasing power. When demand justifies further farm expansion, irrigation of lands in Linn County will offer a sound base for growth. Until that time arrives it seems sensible to rely largely on the new lands now under development in the Columbia Basin and other Northwest projects. The primary purpose of this report is to explore the possibilities of full employment

and higher level of living through economic readjustment rather than by horizontal expansion. This latter method has been the outstanding feature of the pioneer period, when rapid growth of population pressed upon developed resources, but it does not promise to solve the basic contemporary problems of the country.

However, irrigation does provide a means of increasing production of Linn County land, and the carrying capacity of that land in terms of families. Construction of irrigation works may also be a source of employment in the post-war period. The possibilities of irrigation in the county should therefore be reviewed.

Annual precipitation in the Willamette Valley averages about 37 inches, which would be ample for most crops if it came during the growing season. As a matter of fact, an average of only 2 inches of rain falls during the three summer months when the need of moisture used by crops is greatest. Evaporation during the summer period is high and as a result much of the moisture from summer showers is quickly dissipated.

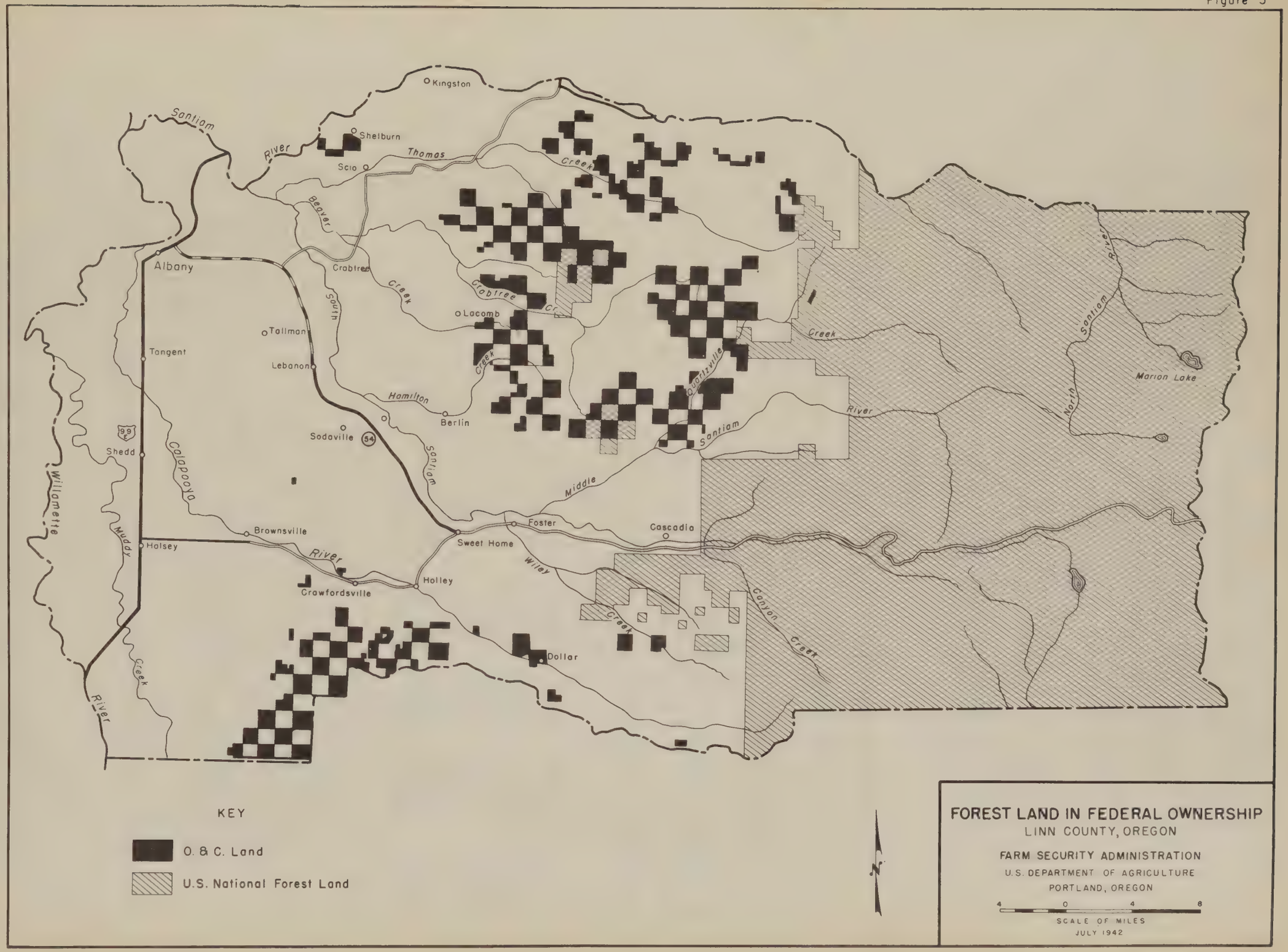
The available moisture storage capacity of soils within the normal root zone varies from 1 inch per foot of soil depth for fine loamy sand to 2 inches per foot of heavier soils. 1/ If the root zone includes 2 to 3 feet of soil the available moisture stored in the soil will range from 2 or 3 inches to from 4 to 9 inches, depending upon the type of soil and the depth of root penetration. With a normal need by crops much above these figures, it is obvious that increased growth will result from irrigation during the dry period.

The number of irrigated farms in Linn County increased from 18 to 191 (961%) from 1930 to 1940. The total irrigated acreage in 1940, was still small, however, being 2093 acres. The acreage is distributed among a relatively large number of farms. The 1940 census gave the following data on irrigation.

Irrigated farms	191
Acreage irrigated	2,093
Cost of irrigation works	$112,000
Average investment per acre irrigated.	$ 53.79
Average cost of maintenance and operation per acre irrigated	$ 4.95
Miles of canals and laterals	28.4
Miles of pipe lines	20.0
Reservoirs	1
Wells pumped	54
Pumping plants	97
Average pumping lift, all sources, feet	16
Average pumping lift, wells, feet	18

1/ "Irrigation Efficiency Studies", W. L. Powers and B. B. Bertranoson, Soil Science Society of America, Proceedings 1939, Vol. 4, Page 415, also "Twenty-Five Years of Supplemental Irrigation Investigations in Willamette Valley", Agricultural Experimental Station Bulletin 302.

Figure 3


Kingston
Shelburn
Scio
Santiam
River
Thomas
Creek
Beaver
Albany
Crabtree
Creek
South
Crabtree
Cr.
Lacomb
Tallman
Tangent
Lebanon
Creek
Hamilton
Berlin
Quartzville
Creek
Santiam
River
North
Santiam
River
Marion Lake
99
Shedd
Sodaville
54
Calapooia
Santiam
Middle
Willamette
Muddy
Brownsville
Foster
Cascadia
Holsey
Sweet Home
River
Wiley
Holley
Crawfordsville
Canyon
Creek
Creek
Dollar
Creek
River
KEY
O. & C. Land
U.S. National Forest Land
N
FOREST LAND IN FEDERAL OWNERSHIP
LINN COUNTY, OREGON
FARM SECURITY ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE
PORTLAND, OREGON
4 0 4 8
SCALE OF MILES
JULY 1942

Experiments by the Oregon State College Experiment Station show that maximum growth is obtained by adding from 3.35 inches of water to Willamette silt loam in bean production to 24 inches for ladine clover and grass pastures on Amity and Wapato silt clay loam soils. 1/ The amount of water needed will vary with the type of soil, the crop being grown, the character of water application, and the season. By and large, very appreciable increases in production can be secured by irrigation.

Irrigation not only increases yield but also net money returns. This is clearly indicated by the records obtained in controlled experiments. Table 25 gives the results secured with selected field crops. An average net gain of $9.61 per acre is a rough measure of the value of irrigation in these instances.

Table 25

Cost and Value of Supplemental Irrigation by Pumping

All Crop Summary---1907 to 1928 inclusive
(20-year average, all comparisons)

Crop	Water Applied	Yield per acre: Dry	Yield per acre: Irrigated	Increase due to Irrigation Yield per Acre	Net Profit 1/ Dry 2/	Net Profit 1/ Irrigated	Gain in net profit from irrigation Average of All Comparisons
	Inches	Tons or bushels		Tons or Bushels	Dollars		Dollars
Alfalfa	9.31	3.478	5.974	1.557	$23.90	$32.30	$ 8.41
Clover	7.56	4.550	6.630	2.150	29.36	33.82	4.46
Potatoes	3.75	130.000	191.000	53.10	52.57	78.49	25.92
Beans	3.27	10.84	15.60	5.18	19.06	30.69	11.63
Corn	5.30	6.407	9.18	2.90	11.41	14.20	2.80
Grass	11.20	3.330	5.130	1.810	24.96	34.71	9.75
Kale	4.30	10.610	13.950	3.340	33.05	44.60	11.55
Beets	4.40	10.817	13.884	3.078	9.84	12.22	2.38

1/ Profit above cost of production, taxes not included.
2/ Cost of production dry alfalfa, clover and grass figured at $15 per acre. Corn, kale, and beans at $20 and potatoes at $40 per acre. Water at $1 per acre-inch. A charge of $2 per ton or 20 CWT., or $0.12 per bushel for harvesting the increase due to irrigation. Crop values used (1927), hay, $12 per ton; corn and kale, $5 per ton; potatoes, $0.90 per bushel; beans, $0.06 per pound

Source: Oregon Agricultural Experiment Bulletin No. 235, Page 14, July 1928.

1/ "Twenty-Five Years of Supplemental Irrigation Investigation in Willamette Valley", Agricultural Experimental Station Bulletin 302, Page 9.

The increase in returns for such intensive crops as berries is more striking than that secured in the production of field crops. Table 26 shows the results of controlled experiments where the average annual percentage increase in production as a result of irrigation ranges from 81.5 per cent to 115.3 per cent. The cost per pound varied with different varieties, but in all but one case showed an appreciably lower cost per pound on the irrigated land.

Table 26

Summary of Yields of Irrigated and Non-Irrigated Small-Fruit Crops

Pounds Per Acre 1928, 1929, 1930

Crop	Increase from Irrigation			Total for bearing years		
	1928	1929	1930	Irrigated	Non-irrigated	Increase from Irrigation
	Pct.	Pct.	Pct.	Lbs.	Lbs.	Pct.
Evergreen blackberries	87.0	109.6	47.6	32,657	19,269	69.5
Red raspberries	49.2	88.8	37.9	21,152	13,357	58.4
Black raspberries	135.4	57.0	253.4	9,125	4,334	110.5
Loganberries	189.7	82.9	--	14,102	7,017	101.0
Marshall strawberries	--	69.3	116.6	15,839	8,674	82.6
Average percentage of increase, all berries	115.3	81.5	113.9	--	--	84.4

Note: Ettersburg 121 variety not included in this table because the experiment indicated irrigation reduced yield.

Source: Oregon Agricultural Experiment Station Bulletin 277, Table 19, May 1931.

In the case of pasture on the heavy soils which are widely distributed in Linn County, irrigation both increases yields and permits the introduction of new and better paying crops. The average of all irrigated pastures on the Experiment Station farm at Corvallis produced in total digestible nutrients an equivalent of 4½ tons of alfalfa hay or 200 bushels of oats per acre. With reasonalbe use of fertilizer the yields increased to an equivalent of 6-1/3 tons of alfalfa hay and 280 bushels of oats. The greater palatability and higher nutrient value of the green pasture adds further value. A good pasture will use from 20 to 30 inches of irrigation a season. In order to yield a satisfactory net profit, the water must be inexpensive and should be applied every ten days or two weeks.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]

The conclusions regarding irrigation are not based wholly upon controlled experiments. An appreciable acreage of Willamette and Amity soils with some white land east of Harrisburg is already being irrigated successfully. Several small pumping plants are used for irrigation on the better soil types, and a small irrigation district, recently organized, is supplying water to tree fruit and berry farms in the hill lands near Lacomb.

Although irrigation investigations made by the War Department show 217,000 acres as ultimately irrigable from water supplies to be made available from multiple purpose storage reservoirs, the development should be geared into a sound land development program for the County. Ground water conditions are such that approximately 66,544 acres of better types of soil can be irrigated by pumping from wells on farms in areas adjoining the Willamette and South Santiam Rivers. An additional 24,448 acres near Muddy Creek can be irrigated by the same method. These developments will probably progress rapidly, especially if low cost power is available. An existing canal from Lebanon to Albany, although not built for irrigation, might readily be used as the primary facility for a gravity distribution system from the South Santiam River covering 26,000 acres. A further area of approximately 100,000 acres can be irrigated in years to come if and when demand for expansion in agricultural production warrants such action. This area consists largely of Amity and Dayton soils which are inferior types not possessing a wide range of adaptability due to drainage limitations. The location of the various irrigable areas here referred to are given in Map 3.

Irrigation development on the 116,544 acres irrigable by pumping and by the gravity system from the South Santiam might provide for an increase in the production of fruit, hops, vegetables, pasture, and alfalfa hay. This would increase production from the existing or readily cleared land base and permit an increase in the number of farms capable of producing satisfactory gross income. It is estimated that 360 new farms might be provided in this way. This possible increase in the number of farms is not included in the final summary of adjustments, because the tremendous increase in production which will result from the Columbia Basin and other new projects already under construction raises a serious marketing problem. A real advantage may be obtained from irrigation development in Linn County, but it seems wise at the present time to regard such possible results as a margin of safety. An appreciable increase in production, leading to an increase in the number of farms, is included in the final figures based upon drainage, land clearing, and better farm management practices. This increase appears to be justified by the rate of population growth, assuming an active program to sustain and increase per capita consumption.

Fortunately any final decision regarding irrigation expansion does not rest wholly upon the development of expensive irrigation structures. A large number of farmers in the better soil areas can arrange for supplemental irrigation through individual or

[illegible] irrigation on the better soil types, and a small irrigation district, recently organized, is supplying water to this fruit and [illegible] in the hill lands near Lacomb.

[illegible] through irrigation investigations made by the War Department show [illegible],000 acres as ultimately irrigable from water supplies to be [illegible] from [illegible] [illegible] ment should be geared into a sound land development program for the County. Normal water conditions are such that approximately [illegible],544 acres of better types of soil can be irrigated by pumping from well-to-river terms, an excess of taking the Willamette and North [illegible] be irrigated by the same method. These developments will probably progress rapidly, especially if low cost power is available. An existing canal from Lebanon to Albany, although not built for irrigation, might readily be made to the primary facility for supplying diversion system from the South Santiam River covering 25,000 acres. A further area of approximately 100,000 acres can be irrigated in years to come, if and when demand for production in agricultural production warrants such action. This area consists largely of hilly and broken areas which are inferior types not possessing a wide range of adaptability due to drainage limitations. The location of the various irrigable areas have referred to are given in M p 3.

Irrigation development on the 110,544 acres irrigable by pumping and by the gravity system from the South Santiam might provide for an increase in the production of fruit, hops, vegetables, pastures, and alfalfa hay. This would increase production from the existing or readily adaptable land bases and permit an increase in [illegible]

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[illegible] structures. A large number of farmers in the bottom land areas can arrange for supplemental irrigation through individual or

Table 27

Cost of Direct-Connected Pumping Unit — Oak Creek
Installed 1919, Irrigation Field
Oregon Agricultural Experiment Station, Corvallis

A. First Cost

Pump and Motor	$430.00
Pipe and fittings	81.52
Wiring for motor	16.00
Foundation	10.00
Installation	80.00
Transportation	20.00
Shelter	50.00
Plume and leveling	45.50
	$733.02

Not included as necessary expense, 1000' of 8" concrete pipe, including K. T. valves and installation $370.00

B. Maintenance

	20 acre ft. run	40 acre ft. run
Interest and depreciation on $733.02 @ 14 per cent	$102.62	$102.62

C. Operating Expense

To pump 20 acre-feet (discharge 2/3 acre-inch an hour, 360 hr. run required.		
Power, ave, 3c K.W.H. (at meter rates)	42.50 @ 2¢	55.32
Labor, 360 hours @ 30¢	72.00	144.00
Lubricating oil (2 mills an hr.)	.96	1.92
	115.46	201.24

D. Total Annual Cost (sum of B and C)

Cost of irrigation (20A or 40 A)	218.08	303.86
Cost per acre-foot	10.90	7.59
Cost per acre-inch	.91	.63
Cost per acre-foot per foot of lift	.54	.38

Source: Oregon Agricultural Experiment Station Bulletin 235, Page 13, July 1928.

small group projects. This situation provides a desirable elasticity. Irrigation expansion can be adjusted to the market situation which prevails in the post-war period.

Estimated installation costs for pump irrigation are lower in total amount per farm than the cost of a canal and ditch system. A pumping system also facilitates irrigation by sprinkling which lessens the need for land leveling and permits a better control of water distribution. With the advent of cheap power, pump irrigation may prove more popular than irrigation from ditches. Table 27 gives the estimated cost of irrigation from pumping systems under specified conditions. Cheap power would appreciably reduce this cost.

Increasing Farm Income by Drainage

In order to get full benefit from irrigation development in a large portion of the irrigable area in Linn County, drainage would have to be developed also. In fact, drainage is a prerequisite to good farming on much of the valley land in Linn County with or without irrigation, because the heavy character of much of the land prevents rapid penetration of either rainfall or irrigation water. Poor drainage causes delayed land preparation, limited growing conditions, and reduced yields.

Dr. W. L. Powers says in Oregon State College Circular 102, "Drainage is the first step in the improvement of one and one-fourth million acres, or almost one-third of the Willamette Valley floor land. There is scarcely a quarter section in the Valley floor that would not be benefited by some tile lines. Nearly a million acres of wet Willamette Valley land need tiling. One-fourth million acres require outlet ditches."

"The Oregon Agricultural Experiment Station has worked out and published methods of tiling these heavy wet lands. As a result 325 miles of tile lines for farmers have been designed, mainly as extension work. These are largely installed and serve approximately 20,000 acres. According to the owners, the increase in crop value from this drainage is from $10 to $25 an acre a year. On this basis the loss in crop value from a million acres of wet occupied farm land in Western Oregon is approximately $10,000,000 annually."

"The primary object of drainage is to remove excess water. This results in improvement in soil structure, increased root pasturage, and an increased supply of capillary or usable moisture. Drainage affords better air circulation, makes soil warmer, aids decay and nitrification, lengthens the growing season, firms the soil, prevents erosion, diminishes the effect of drought, and prevents heaving and freezing out and the accumulation of acids or alkali. In addition, drainage improves sanitary conditions, promotes healthfulness, and is an aid to transportation and to the general development of the country. Timely drainage pays with big interest on money invested in increased yields and land values."

[illegible] prutoria. Distribution provided a desirable [illegible] Irrigation connection can be supplied to the method [illegible] the [illegible] the [illegible].

Improved [illegible] methods for pump irrigation are [illegible] [illegible] gas from [illegible] use of a [illegible] and other [illegible] [illegible] [illegible]

"Physical analyses of representative samples of white land (Dayton silty clay loam) from the drainage experiment field show that the surface soil contains about 20 per cent clay and over 55 per cent silt. In other words, it is a gray silty clay loam. The subsurface is blue clay, containing more than 33 per cent clay; the subsoil is yellow silt loam, containing only 17 per cent clay. Just below the blue clay, or at a depth of from 3 to 3½ feet, is a friable streak, more porous than the subsoil at greater depth. It is in this friable layer just below the blue clay that it is usually best to place laterals or collecting drains."

"Drainage in experimental field studies has doubled the yield. Before drainage the crop yield was so low that profit was uncertain. The larger crop has insured a good profit. Following drainage in 1915 when winter barley drowned out in part on untiled land that yielded 12 to 15 bushels an acre, the yield of tiled land at different spaces ran as high as 33.73 bushels for the closest spacing as follows:

Distance between Laterals (feet)	Yield of Barley per acre in 1915 (bushels)
25	33.73
50	29.90
75	27.90
100	20.35
Undrained	15.00

"A piece of white land in the irrigation field south of the railroad on the College farm was tiled in 1921. This area had previously been abandoned to pasture. The first crop following drainage was white beans. The yield without fertilizer was 11 bushels of beans, which sold for $3 a bushel. The tile lines are 5 rods apart. The material or tile cost at this spacing was $20 an acre. The tiling was installed by students as class work but would have cost $20 an acre to install. Seven bushels of beans returned the money paid out for tile." 1/

Tile drainage is a relatively expensive process. It will cost from $20 to $50 per acre for initial installation. Drainage is, therefore, one of the techniques which is tied quite definitely to credit facilities and tenure patterns. Under skilled management, with sound financing and adequate control of land values, tile drainage would materially increase the carrying capacity of Linn County land in terms of farm families.

A quicker but less effective result can be accomplished by surface drainage. The problem of surface drainage is closely tied to the problem of flood control, as an appreciable proportion of the excess water comes from overflow of streams and small

1/ Oregon Agricultural Experiment Station Circular 102. "Drainage and Improvement of Wet Land." Dr. W. L. Powers. January 1931.

[illegible]

[illegible]

[illegible]

drainage channels. The improvement of surface drainage conditions might well yield high returns from the expenditure of comparatively small amounts of labor and money.

If the gross income per acre could be increased through drainage by $10 per year on half of the land under cultivation during the next 15 years, it would permit an increase of 200 families on the basis of $5000 gross income.

Such a program of land improvement would require the establishment of a tile factory and the employment of 150 or more men in making tile and installing it. This type of work could proceed during most of the year and would, therefore, create relatively steady employment.

Increasing Farm Income by Land Clearing

Although farming communities in Linn County are well developed for the most part, only 40 per cent of the land in farms is cultivated. Particularly at the zone where forest and farm areas meet, and adjacent to major streams, clearing of additional land will be advantageous and feasible.

Linn County does not offer as large an opportunity for expansion through land clearing as do some other areas, for instance certain counties in Western Washington. A large part of the present farm land was in grass when settlers first arrived. Much of the timber was located on rough land which never will be suitable for agriculture. Scattered areas in the zones referred to above, however, may logically be developed. Many farms can be rounded out into more satisfactory operating units by clearing. Some of the best land in the county is still covered with brush, trees and stumps.

The delineation of areas for clearing is a task for the County Land Use Planning Committee working with State and Federal agencies trained in this field. It is estimated that the amount of cut-over land which might readily be cleared for cultivation would be at least 5,000 acres. This would provide enough land, considering its potential production and the use that can be made of adjacent land for pasture, for the equivalent of 50 new farms.

Land clearing may well provide employment during the post-war period, but to a considerable extent the future users of the land would be those who would expend labor in this activity.

Consolidation and Planning of Part-Time Farms

Any basic approach to the part-time farming problem would, in broad terms, adjust the number to the opportunity which exists in the county for well rounded part-time farming enterprises, considering the types of intermittent employment available, and

help in raising farm labor out of a disadvantaged position. At least the community environment could represent a positive stimulus to people in this group.

Finally, it would be possible for younger men trained in agriculture to enter the farming field by the way of the farm laborer route without subjecting their wives and children to a poverty level of living. Experience in the cooperative activities of the community would provide excellent training in itself. After obtaining experience by working on various farms, farm workers should be expected to avail themselves of farm openings where they take on full management and operating responsibilities.

The main disadvantage of such a pattern arises from the fact that a clustering of part-time workers may increase the distance to places where they work. The distribution of intensive crops requiring labor would have a bearing on this problem. It would be possible to scatter smaller groups of labor homes appropriately through the area. In some localities, grouping of workers has a definite advantage since they may plan their transportation more advantageously than singly. This might prove to be the case especially for forestry workers.

The need for improvement of the security and living surroundings of part-time farmers warrants a full exploration of the labor home pattern. Construction of these small communities, or scattered homes, might be an excellent peace-time undertaking.

Summary of Land Subdivision and Consolidation Illustration

The purpose of the foregoing illustrations of land subdivision and consolidation measures, which might be applied, are to portray a situation wherein farm operators of Linn County might have the physical basis for achieving full employment and adequate income. Using gross farm income as the denominator of measurement, full-time farmers would obtain average gross incomes of $3500 to $10,000. The net income objective of $1500 or over is the underlying goal.

It is assumed that the number of part-time farms should correspond to dependable intermittent work opportunities.

A tabular summary of this illustration is contained in Table 29.

Table 28

Adjustments in the Number and Incomes of Part-time and Subsistence Farms

(figures include value of products directly consumed by the family)

Number	Gross Farm Income 1940	Average Gross Income 1940	Number on Adjusted Basis	Average Gross Income Adjusted Basis	Total Gross Income Adjusted Basis
2252	$1,638,097	$ 727.39	850	$ 591.01	$ 502,360
Part-Time farms for agricultural labor			600	600.00	360,000
" " " " Forest			" 200	600.00	120,000
Residence units			50	477.00	22,360

The drastic nature of such an adjustment would be modified by (1) the reliance of 989 of these people upon non-farm sources of income, and (2) the fact that over 500 farmers in the county are over 65 years of age, and consequently should have the opportunity to retire on pension from active service.

The need and desirability of an old age retirement plan as part of the post-war program is discussed separately in this report.

Although the method used in this illustration makes it appear that any displacement of farmers which would occur would be among the small operator group, this conclusion should not be drawn. Old age retirement opportunities, for instance, would affect all farmers. The point which is made here is that a full-time farmer should have enough land to enable full use of his labor, and an adequate income. The number of part-time farmers should not greatly exceed the number of reliable and suitable off-farm work opportunities. Part-time farming should not be the catch-all for farmers displaced by competition or adversity. And the land base should, broadly speaking reflect the above situation, rather than heedless subdivision.

Once it is recognized that the recent trend toward a heavy increase in part-time and subsistence farms is an adjustment to poverty, and a symptom of economic distress, it seems apparent that there should be a re-examination of the small unit pattern as it exists, in terms of its ability to serve the needs of part-time farm families. A great deal has been done along this line in Scandanavian and Western European countries prior to the war.

In actual practice the urban worker who has extra time sufficient only to produce a garden and possibly keep a cow, has very often acquired five to ten acres which he necessarily neglects. He neither has the time, equipment, nor the experience to make advantageous use of his land. On the other hand, the

	Income taxes	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible] Basis	[illegible] adjusted Basis	[illegible]
2252	$1,632,027	$ 727,39[illegible]	[illegible]	$ [illegible]	$ [illegible]
Hardwood farms for agricultural [illegible]			[illegible]	[illegible]	[illegible]
" " " " " forest			200	[illegible]	1[illegible],000
Residence units			30	[illegible]	2[illegible],[illegible]

The domestic nature of such an adjustment would be modified by (1) the residence of one of these people upon [illegible] and (2) the fact that over 100 farms in the country are over 65 years of age, and consequently should have the opportunity to retire on pension from getting service.

The need and desirability of an old age retirement plan as part of the post-war program is discussed separately in this report.

Although the method used in this illustration makes it appear that any displacement of farmers which would occur would be among the small operator group, this conclusion should not be allowed all farmers. The point which is made here is that the full-time farmer's family owns enough land to enable full use of his labor, and an adequate income. The number of part-time farmers should not greatly exceed the number of holdings and [illegible] for the contribution [illegible] by [illegible] and the land base adjusted, broadly speaking, [illegible].

[illegible] it is recognized that the vacant broad [illegible] a heavy [illegible] in part-time and subsistence farms in [illegible] to convenience, and a [illegible] of economic distress. It should [illegible] that there should be a [illegible] of the small farm [illegible] in the United States. In terms of life satisfaction [illegible] the needs of part-time farm families. A great deal has been done along this line in Scandinavia and Western European [illegible] prior to the war.

In actual practice the urban worker who has extra time available only to produce a garden and possibly keep a cow, [illegible] very often acquired [illegible] to top soil which is [illegible]. He neither has the time, equipment, nor the [illegible] advantageous use of his land. On the other hand, the

part-time farmer who depends upon agricultural work for an outside income may very logically cultivate as much as ten or twenty acres. The farming enterprise must be adapted to the needs and circumstances under which part-time farmers will live and derive their supplemental income.

Experience with the Longview Homesteads in the State of Washington shows clearly that urban workers may advantageously engage in subsistence production, but they cannot handle appreciable areas or land running over 2 acres per unit and still hold full-time jobs. This experience also shows that good housing and environmental conditions can be provided at low costs if the housing is properly planned and financed. At Longview $18 a month will buy a comfortable five-room house on two acres of land and pay the costs of the insurance and interest.

The most logical solution to the various problems which have been enumerated under the part-time farming problem would almost certainly be through some variation of the small cooperative community. No type of farm enterprise needs the advantages which can be obtained through cooperative arrangements more than the part-time farm. No group of people can better afford to make the savings of time and funds which could be obtained. No group is less able to provide itself with proper housing, service facilities, and equipment with its own resources. No group is less secure under conditions which can be arranged through their own individual efforts. A properly planned small community for part-time farmers could provide good housing, domestic water supplies, and environmental facilities at least within the range of minimum costs. This is practically impossible under any other pattern. Security of tenure can be obtained through a properly devised community association type of arrangement, where the Federal Government provides funds for purchase of land and construction of improvements, and collects appropriate charges annually.

Such a pattern enables the production of hay crops, pasture, and other feeds for livestock without exorbitant overhead costs or inefficiency in the use of time. Suitable machinery can be acquired and used and the costs spread over sufficient volume of production that no serious financial handicap needs to be involved. The management of subsistence and part-time farming enterprises can be planned in such a way that workers can leave for outside employment without impairing the continuity of work at home. Such basic commodities as milk can be produced and handled by group effort much more satisfactorily, and without waste, or lack of supply during the dry period of the cows. Provision can be made economically for facilities to store and process foods so that the value of home production can be substantially increased.

In addition to the above mentioned factors, it is possible in such a setting to provide a considerably better environment for women and children who are members of part-time farmers' families. The organization of part-time farm communities on this basis could

help in raising farm labor out of a disadvantaged position. At least the community environment could represent a positive stimulus to people in this group.

Finally, it would be possible for younger men trained in agriculture to enter the farming field by the way of the farm laborer route without subjecting their wives and children to a poverty level of living. Experience in the cooperative activities of the community would provide excellent training in itself. After obtaining experience by working on various farms, farm workers should be expected to avail themselves of farm openings where they take on full management and operating responsibilities.

The main disadvantage of such a pattern arises from the fact that a clustering of part-time workers may increase the distance to places where they work. The distribution of intensive crops requiring labor would have a bearing on this problem. It would be possible to scatter smaller groups of labor homes appropriately through the area. In some localities, grouping of workers has a definite advantage since they may plan their transportation more advantageously than singly. This might prove to be the case especially for forestry workers.

The need for improvement of the vicinity and living surroundings of part-time farmers warrants a full explanation of the labor home pattern. Construction of these small communities, or scattered homes, might be an excellent peace-time undertaking.

Summary of Land Subdivision and Consolidation Illustration

The purpose of the foregoing illustrations of land subdivision and consolidation measures, which might be applied, are to portray a situation wherein farm operators of Linn County might have the physical basis for achieving full employment and adequate income. Using gross farm income as the denominator of measurement, full-time farmers would obtain average gross incomes of $3500 to $10,000. The net income objective of $1500 or over is the underlying goal.

It is assumed that the number of part-time farms should correspond to dependable intermittent work opportunities.

A tabular summary of this illustration is contained in Table 29.

Table 29

Results of Adjustments in Number of Farms
Individual Farm Incomes and Gross Income by Income Groups

(Figures include value of products directly consumed by family)

Range of Income in 1940	Number of Farms 1940	Number of Farms on Adjusted Basis	Average Gross Income Per Farm 1940	Average Gross Income per Farm on Adjusted Basis	Gross Income for All Farms on Adjusted Basis
$10,000 & over	54	54	$20,437	$10,934	$590,436
6,000 - 9,999	86	86	7,496	7,496	644,656
4,000 - 5,999	173	173	4,844	4,844	838,012
2,500 - 3,999	307	100	3,124	5,000	500,000
		207	3,124	4,500	931,500
1,500 - 2,499	423	306	1,949	4,000	1,224,000
		117	1,949	3,500	409,500
Total	1,043	1,043	4,190	4,926 1/	5,138,104
Under $1,500	2,252				
Part-time farms for agricultural labor		600	Under	$ 600	$ 360,000
Part-time farms for forest labor		200	$ 250	600	120,000
Residence Units		50	to 1,499	447	22,360
Farms units absorbed in consolidation		1,402			
Total	2,252	2,252			
Grand total	3,295	3,295			5,640,464

1/ Land obtained through consolidation increases average and gross income

It is repeated here that the above is illustrative of possible broad lines of action which are regarded as being fundamental to solution of the post-war problem. Acceptance of a situation wherein an increasingly large number of farmers are entering a poverty group is considered inadmissible in any effective peace-time program.

It is also reaffirmed that in the application of any such policy or program a latitude of objectives and standards would be required. No drastic or inconsiderate displacement of any group of farmers should be envisaged as a feature of a land redistribution program. Rather, the provision of alternative opportunities and the exercise of free choice would be necessary elementary considerations.

Furthermore, the relationship of income to acreage in very rough. Income is the result of the total farm enterprise. Poultry farms require very little acreage, have high gross income and high costs. Grain farms have larger acreage, and small returns per acre. The illustration nevertheless portrays a fundamental idea. The counterpart of income, in distribution of physical resources will be found to exist.

The significance of adjustments illustrated in the foregoing paragraphs, in terms of consumer demand and secondary economic effects, is discussed later in this report.

The Effect of Increased Per Farm Income Upon the Market

The welfare, employment, and incomes of farm people, as well as other people who produce goods which may be used in Linn County, depend upon the activity and vigor of basic economic enterprises in the area. The reciprocal nature of the relationships that exist cannot be overstressed. Linn County produces veatch seed which is used in Alabama to produce cover crops for cotton fields. Income from the sale of seed is spent by Linn County farmers for machinery. This transaction supports, in part, workers in Illinois. The transaction also provides income to tradesmen in Linn County, and to railroad workers. Or, the income from seed may pay a debt to a banker in New York. The possibilities are manifold. The tertiary relationships may be exceedingly complex.

This context of economic life is the setting for the peace-time problem of employment and earnings. The fact that Linn County, Oregon is an integral part of this national and international mechanism validates the approach to post-war planning which may be suggested by the present exploratory study.

In order to describe concretely the possibilities which may exist, the illustration presented heretofore with reference to land distribution will be extended.

A situation was protrayed wherein farmers, through using adequate physical resources and better management, might obtain from $3500 to $10,000 gross incomes annually, and thereby reach a minimum adequate net income level of $1500 or over. Part-time farms would be broadly limited to the number which might be justified by dependable intermittent employment. Alternate opportunities would then need to be provided for a rather large number of people who would be displaced. Such opportunities would be in the form of old age retirement (discussed later), or productive employment in non-agricultural enterprises.

The increase in gross income annually to farmers who would benefit by reaching an adequate earning level might be approximately $1,293,205. It is estimated that one-fourth of this amount, or $323,301, would be available to these families as net income to enable increased expenditures for needed goods and services. The balance would go to pay farm operating costs. Table 30 summarizes the presumed situation.

[illegible] In terms of consumer demand and secondary economic [illegible] discussed farmers in this section.

[illegible] Farmers Employed Elsewhere In Lima Upon the Market

The welfare, employment, and income of farm people, as well as other people who produce goods which may be used in Lima County, depend upon the activity and vigor of basic economic enterprises in the area. The requirements of the relationships that could cannot be overemphasized. Lima County produces crops which should be used in Alabama to produce cover crops for cotton fields. Income from the sale of seed is spent by Lima County farmers for machinery. This transaction supports, in part, workers in Lima. The transaction also provides income to businessmen in Lima County and to railroad workers. Or, the income from seed may go to a dealer to a business in New York. The possibilities are endless. The secondary relationships may be exceedingly complex.

This context of economic life is the setting for the price-type problem of employment and earnings. The fact that Lima County, Oregon is an isolated unit or that national and international population values are the approach to year-by planning which only to suggested by the present exploratory study.

In order to describe concretely the possibilities which may exist, the illustration presented hereforeto with reference to land distribution will be extended.

A situation was postulated wherein farmers, although not in domestic [illegible] to $10,000 gross income annually, and thereby fell in a minimum adequate net income level of $1,500 or more. Part-time farms would be broadly limited to the number which might be justified [illegible] upon the basis of [illegible] provided for a rather large number of people who would be desirable. Such opportunities would be in the form of old age retirement (disguised labor), or productive employment in non-agricultural enterprises.

The increase in gross income annually to farmers who would benefit by receiving an adequate earning level might be approximately $1,500,000. It is estimated that one-fourth of this amount, or $375,000, would be available to those families in net income to provide increased expenditures for needed goods and services. The balance would go to pay farm operating costs. Table 20 summarizes the proposed situation.

Table 30

The Increase in Income Made Possible for Various Income Groups As a Result of Redistribution of Land

Number of Farms	Increase in Gross Income Per Farm Due to Adjustment In Land Base	Total Increase In Income Going to Operators of Farms With Enlarged Land Base	Increase in Income Available for Family Use (25 per cent of Total Increase)
	Dollars	Dollars	Dollars
54	—	—	—
86	—	—	—
173	—	—	—
100	1,876	187,600	46,900
207	1,376	284,832	71,208
306	2,051	627,606	156,901
117	1,651	193,167	48,292
Total		1,293,205	323,301

It is true that net incomes of 54 large operators would be reduced, but since they would still receive over $10,000 gross income, this factor is not particularly important in its effect upon consumer expenditures. That level of income is fully compatible with a vigorous economic life and good living.

It is also true that 1402 people classed as farmers would be displaced, but the development of alternative opportunities, above the poverty level, is the subject of present discussion.

The 730 farmers who received additional net income of $323,301 would be in a position to expend or invest an average of $443.87 more cash than formerly. This additional income might be spent for the items shown in Table 31. For comparison, Column 1 shows a distribution of expenditures, based upon FSA records, of families at the $800 cash income level. ($1032 including value of home produced food.)

[illegible]

Number of Farmers in Group	Total Increase in Gross Income for Farmers Taking Farm Plan for Improvement of Farm	Increase in Income for Operators of Farms With Enlarged Land Base	Equivalent to Adding an Additional Family Use (25 per cent of Total Income)
	Dollars	Dollars	Dollars
15	—	—	—
18	—	—	—
173	—	—	—
180	[illegible]	[illegible]	[illegible]
207	1,276	364,832	71,308
300	2,021	627,605	156,901
117	1,621	193,167	48,292
Total		1,293,205	323,201

It is true that net incomes of 54 large operators would be reduced, but since they would still receive over $10,000 gross income, this factor is not particularly important in the effect upon consumer expenditures. Their level of income is fully compatible with a vigorous economic life and good living.

It is also true that 1182 people classed as farmers would be [illegible] but the distinction of [illegible] above the poverty level, is the subject of present discussion.

The 750 farmers who received additional net income of $323,201 would be in a position to expend or invest an average of $430.27 more cash than formerly. This additional income might be spent for the items shown in Table 32. For comparison, Column 1 shows a distribution of expenditures, based upon BEA records, of families at the $500-999 income level. (Table [illegible] of the [illegible])

Table 31

The Items for Which the Increased Income Of Farmers having an Enlarged Land Base Might be Spent

Item	Annual Cost of Items Purchased by Farmers Receiving an Income of $1032 per year.	Items for which a Farm Family Might Spend an Additional $443.87	Total Value of Increased Expenditure for 730 Families	Total Amount Spent by 80 New Farmers
	Dollars	Dollars	Dollars	Dollars
Food	240 (210) 1/	(72.64)	(49,395)	(41,811)
Clothing	140	50	36,500	15,200
Housing	126	84 2/	61,320	16,800
House Operations	90	10	7,300	8,000
Furniture	15	25	18,250	3,200
Care of Person	16	14	10,220	2,400
Automobile	60	60	43,800	9,600
Leisure Time	18	25	18,250	3,440
Insurance - Life	18	—	—	1,440
Unemployment	—	—	—	—
Old Age	—	100	73,000	8,000
Medical Care	50	35	25,500	6,800
Association Dues	—	5	3,650	400
Education	12	14	10,220	2,080
Church & Charity	21	5	3,650	2,080
Spending Money	14	16	11,680	2,400
Total			372,735	123,651

1/ Value of home production
2/ Figure used is based on 2.5 per cent depreciation, 1.5 per cent up-keep, and 3 per cent interest.

The largest item in this suggested distribution of increased family expenditures is $100 covering provision for old-age pensions. This saving is in addition to the accumulation of capital resulting from the payment of mortgage indebtedness on land or upon investments.

The pension problem is discussed later in some detail, but it can be said here that the ability of 730 farmers to provide adequately for old age could be created by the fact that they would be able to earn more money through increased production, resulting from a more complete and a more efficient use of their labor energy. In other words, these farmers could save for their old age because they might be able to make a better use of their time, energy, and management capacities during their working period. It is important to note that these savings are the result of increased production. They are not deductions from

[illegible]

an inadequate income, but are a part of the increased income resulting from the adjustment.

Another item in the budget which deserves special mention is an increase of $35 over a former expenditure of $50 for medical care. Again, the increased earning power of 730 farmers should enable them to pay their rightful share of an adequate health and medical program for the county as outlined hereinafter.

The secondary effect of the expenditure for adequate medical care would be a direct addition to local income. The money would go toward the employment of doctors, nurses, hospital attendants, health officers, and the like, who would in turn spend a large part of their incomes through local channels.

The second largest item covers housing. Housing is normally considered as part of the farm, and consequently no separate allowance is made in many farm budgets to cover this cost. In a program of full employment, however, new housing will be an important factor and since new housing must be paid for, it must be included in the budget. The $126 allowed in Column 1 would provide for a house and related facilities costing $1800 on the basis of 2.5 per cent depreciation, 1.5 per cent maintenance, and 3 per cent interest. On this same basis the additional $84 would provide a house and related facilities costing $3000. This would be consistent with the standards discussed later under the heading of housing.

One large item, not included in the $443.87 of additional expenditures is represented by the increase in the value of production for home use. The census record shows that 2147 farmers, receiving less than $1500 gross returns, produced an average of $165.22 worth of farm products for home use. The 1023 farmers making more than $1500 gross returns produced an average value of $237.91 in home production per family reporting this item. The difference between these two figures is $72.64. This is used in Table 31 as an estimate of the possible increase in value of home production on the farms remaining after consolidation and subdivision. The possible significance of this item in the Nation as a whole is shown by the fact that if the food consumption of the 24,000,000 families in the United States who in 1935-36 received less than $2500 per year, were increased by $72.64 the total demand for food products in the United States would be increased by $1,743,000,000.

An item of $50 is set aside for increased clothing. Again, if the 24,000,000 families above mentioned could spend $50 more a year on clothing, it would swell the total demand by $1,200,000,000. This would in turn increase the demand for wool, cotton, flax and synthetic fibers. Linn County flax growers, Montana wool growers, and Mississippi cotton growers would all benefit. It is only by a similar process of adjustment in all localities, everywhere, that the market can be expanded.

[illegible] Another item in the budget which deserves special mention is an increase of $25 over a former expenditure of $30 for medical care. Again, the increased earning power of the farmers should enable them to pay their rightful share of an adequate health and medical program for the county as outlined hereinafter.

The secondary effect of the expenditure for adequate medical care would be a direct addition to local income. The money would go toward the employment of doctors, nurses, hospital attendants, health officers, and the like, who would in turn spend a large part of their incomes through local channels.

The second largest item covers housing. Housing is normally considered as part of the farm, and consequently no separate allowance is made in many farm budgets to cover this cost. In a program of full employment, however, new housing will be an important factor and since new housing must be paid for, it must be included in the budget. The $116 allowed in column I would provide for a house and related facilities costing $1800 on the basis of 2.4 per cent depreciation, 1.5 per cent maintenance, and 3 per cent interest. On this same basis the additional $84 would provide a house and related facilities costing $2500. This would be consistent with the standards discussed later under the heading of housing.

One large item, not included in the $4,247 of additional expenditures is represented by the increase in the value of production for home use. The census record shows that 2147 farmers, receiving less than $1000 gross returns, produced an average of $[illegible] worth of farm products for home use. The 1023 farmers making more than $1500 gross returns produced an average value of $[illegible] in home production per family receiving this item. The difference between these two figures is "[illegible]". This is used in Table 32 as an estimate of the possible increase in value of home production in the farm receiving other consideration and substitution. The [illegible] effect of this item in the farm as a whole [illegible]

[illegible]

[illegible]

[illegible] only by a similar process of adjustment in all localities, [illegible] that the [illegible]

The other items in the budget allow for increased expenditures for household operations, furniture, personal care, use of the automobile, leisure time activities, dues to associations, contributions to church, and money to spend on miscellaneous items, all of which are additions to the market.

The figures in Table 31 provide a partial measure of the increase in local retail trade which might result from enlarged capacity to produce on the part of 730 farmers. Because these farmers are able to be fully employed, they can produce more, and their purchasing power is increased also. Their increased earnings might enable them to save for old age. Through a workable system of pensions based, in part, upon these earnings and in part upon other income as discussed herein, 527 farmers over 65 might retire. Their pensions would continue to sustain the retail market. The use of some of the increased income of 730 farmers would go for a health and medical program which adds to local employment first, and then to local retail trade. The increased income spent for better housing, more clothes, and other goods and services would be added to the local retail trade with a wide ramification of influence on markets and employment. This is new income which passes into the current of national income. An appreciable portion of these funds go to points outside of Linn County and result in increased employment in Portland, Detroit, Pittsburg, Hartford, the cotton farms of Texas, or wherever things are made that are sold in Linn County.

EMPLOYMENT POTENTIALITIES IN LINN COUNTY FORESTS

The Forest Service estimates that under certain conditions the forest area tributary to Linn County will furnish enough work to employ about 3000 men. Table 32 bears upon this point. According to the Forest Service, some of the conditions required to furnish the employment these activities could support are:

1. Sustained yield management of the entire timber resource, including private ownerships,
2. Local conversion of all logs,
3. Administration of the entire forest area under a permanent multiple-purpose program,
4. Permanent development of entire forest area, especially with a permeating road system to enable management of the entire timber stand.

Sustained Yield Management

Sustained yield management is essential to stabilize the resource base for employment in logging and milling which comprise 74 per cent of the available work.

Reduced to its simplest terms, establishing sustained yield management in unregulated virgin stands, like those in Linn County, requires distributing the available timber volume in approximately equal annual amounts over the period of time needed to produce.

items in the budget allow for increased expenditures for school operations, furniture, personal care, fee of the [illegible] Malaria Eradication, dues to association, donations to church, and money to spend on miscellaneous items, all of which are additions to the permit.

[illegible] to produce on the part of 730 farmers. Because these farmers are able to be fully employed, they can produce more, and their purchasing power is increased also. Their increased earnings enable them to save for old age. Through a workable system of pensions based, in part, upon these earnings and in part upon other income as discussed herein, 527 farmers over 65 might retire. Their pensions would continue to sustain the retail market. The use of some of the increased income of 730 farmers would go for a health and medical program and in aids to local employment [illegible] and [illegible] to local school funds. The [illegible] spent for better housing, more clothing, and other goods and services would be added to the local retail trade with a wide multiplication of influence on markets and employment. This is new income which pours into the current of national income. An appreciable portion of these funds go to pay the outside of Lima County and result in increased employment in Portland, Detroit, Pittsburgh, Hartford, the cotton farms [illegible] are made that are sold in Lima County.

[illegible]

[illegible] forest area tributary to Lima County will furnish enough work to employ about 3000 men. Table 32 bears upon this point. According to the Forest Service, some of the principal requirements to furnish the employment these activities could support are:

1. Sustained yield management of the entire timber resource, including private ownership.
2. Local conversion of all logs.
3. Adequate protection of the entire forest area under a [illegible] multiple-purpose program.
4. Permanent development of entire forest area, especially with a permanent road system to enable management of the entire timber stand.

[illegible]

[illegible] cent of the available work.

Reduced to its simplest terms, establishing sustained yield management in unorganized virgin stands, like those in Lima County, [illegible]

timber of commerical size. If this is done, the last trees will not be cut until the areas first cut again contain commercial timber. Cutting under these conditions will be both uniform and continuous. Employment may fluctuate on account of market conditions but not because the basic resource is first overexploited and then fades away.

The above discussion over-simplifies sustained yield management to such an extent that it might appear easy to set afoot. In reality it is very difficult for private owners to operate on such a basis. Problems in organization, finance, operation and protection must be solved before private owners can see their way clear to forego liquidation in favor of sustained yield. These problems have been analyzed before the Joint Congressional Committee on Forestry and elsewhere. 1/ They are fairly well-known, and the Forest Service has developed a program for their solution. Here it may suffice to say that ordinarily taxes, holding charges, protection costs, etc., prevent a private owner from holding more than about a thirty years' supply of West Coast timber for any given sawmill. Unless commercial timber can be raised in thirty years the private owner cannot establish sustained yield with his own resources. Complementary ownership would be required, and public ownership is the only type which is not subject to the hazards above mentioned.

Private and public enterprise each have their part in the administration and use of forests. Public ownership of timber land seems necessary to establishment of sustained yield units and to good management under this system. Private enterprise can logically handle cutting and milling operations. Programs of public acquisition-both State and Federal- afford the basic opportunity to stabilize employment and supplies of timber. All other measures so far prepared to obtain these objectives are either accessory or subsidiary to public acquisition.

Local Conversion of All Logs

A part of the logs cut in the forest tributary to Linn County are floated down the Willamette River and milled in the Lower Columbia River production unit. Most of the large production units have long since possessed a log pool--a general log market within the production unit. These log markets exist where large water bodies like the Lower Columbia River or Puget Sound, facilitate the movement of logs and permit a sorting out of special sizes and species for special purposes and consignment to specialized mills. The supply of logs in the market is furnished by professional loggers who deal in logs. The result is a highly fluid condition. Timber anywhere inside the unit can be milled almost anywhere within the unit.

1/ The reader is referred to Forest Resources of the Pacific Northwest; National Resources Committee, 1938.

The recent improvement of the Willamette River has made it possible to deliver logs from Linn County into the Lower Columbia River log market and in a manner of speaking has placed the excess mill capacity in the severely depleted Lower Columbia production unit at the disposal of Linn County timber owners. This stimulates cutting in Linn County; accelerates depletion; militates against local mills; and decreases local employment. However, it does not affect the sum total of employment indicated in Table 32, and is not an unmixed evil, since it helps to prolong the life of existing mills and supports their dependent population. Probably nothing conclusive can be said about this movement of Linn County logs out of Linn County. As far as the county is concerned, it aggrevates the difficulty of establishing sustained yield and stultifies local development. These facts definitely concern the welfare of the Linn County population.

The establishment of three plywood plants in Linn County since 1939 has altered the employment situation as shown by the accompanying chart. During the last four months of 1940, monthly employment in these industries jumped from 1500 to 2100 and during the last half of 1941 rose from an average of approximately 2200 to an average of approximately 3200. The money paid in wages to these people is in direct addition to the income and purchasing power of the county.

Multiple Purpose Administration

Although forestry is extensive use of land in contrast to farming which represents an intensive use, the full value and productivity of the forest cannot be realized unless it receives continuous care and attention. Just as a farm must receive care and attention to remain at full productivity, so must a forest. In farming, this is taken for granted, but in forestry it is exceptional for any except public forests to be under continuous administration.

In Linn County the national forest and the revested land grants are under administration, but other ownerships are not. Administration is not essential for liquidation. It is needed only when forest land is put under continuous production and when the intention is to benefit from all the resources of the forest.

In addition to timber, the forest contains such resources as game, fish, and recreation whose utilization often conflicts with utilization of timber and forage. These conflicts require reconciliation to prevent the utilization of one resource from destroying another. These adjustments cannot be provided except through continuous administration, aided by careful planning. They are seldom, if ever, provided on private forest properties, so that in areas where forest depletion is far advanced there has often been a parallel neglect of wildlife, of recreation, and of the soil.

Development for Selective Management

As the forester sees it, a forest property should be managed like an estate with all parts of it open, accessible, and under the watchful eye of an attentive steward. In its native state the forest is not in this condition but just the reverse—raw, inaccessible, and, as far as managerial conceptions are concerned, disorderly.

The forester would change this by development. Primarily he would build a network of roads to provide full access and permit doing work when and where it became necessary. The roads would be built to standards adequate for truck logging, and they would be permanent. The road system would be supplemented by adequate communications and a sufficiency of buildings to house personnel and equipment. The objective of this kind of development is extended flexibility of management and utilization in contrast to what prevails at present.

Usually large size forests in the Douglas fir region, including those in Linn County, are inaccessible for utilization except along their margins. The common practice is to develop a logging road as fast but no faster than it is needed, with the result that logging is confined to sections of the tract's periphery and these sections are pushed progressively forward. Meantime, the interior of the forest remains inaccessible.

This method of proceeding is satisfactory for liquidation where the intent is to realize one of several forest values, but it is not satisfactory for continuous forest enterprises, where the intent is to utilize the productive capacity of all resources. It is true that most Douglas fir forests, particularly the National forests, now contain a certain amount of light-duty roads and other improvements to facilitate protection and administration; but what is required is not a skeleton improvement but thorough-going development which will permit intensive management, protection salvage, and culture on selected small tracts. The work estimates provided by the Forest Service for Linn County are contingent upon putting this conception into practice.

As a post-war measure, the establishment of a multiple purpose forest development and conservation project under public ownership and management in the forest of Linn County, would serve several important functions. It would employ an average of 752 men in forest conservation and development work, in addition to 30 trained personnel in administrative work. (See Table 32). It would stabilize other employment in logging and milling operations, expand recreational opportunities, improve streams, and conserve and develop wild life. The total value secured from the land over a full cycle of production would be appreciably enhanced. The tax base in the county could be stabilized to re-imburse the county for expenditures made by the county, and rightfully chargeable against forest resources. The traditional speculative rise and sudden collapse of a short-lived industry would be avoided and there would be no basic loss to any legitimate interest.

If a stabilized forest program were adopted along the lines suggested, 200 or more permanent homes could be built for loggers, sawmill operators, and for others engaged in conservation and development work. When employment is intermittent and seasonal, part-time farms would offer advantages of real merit, provided they were built on a community pattern permitting the various economies inherent in such a program. These communities could be modeled after the plan discussed heretofore in this report, and could be designed to serve a very useful purpose.

Table 32 (or Table 8)*

Capacities for Yearly Direct Forest Employment - Linn County, Oregon

All Classes of Work (a)

Class of Work	Equivalent Number of Employees Required on Yearly Basis - 250 Days per Year	Average No. Employees per 100,000 Acres (2)	Average Number Man Days per 100,000 Acres Gross Acres (3)	1 Man Year - 250 Days: National Forest Land (4)	1 Man Year - 250 Days: Other Ownership (5)	Total Amount (6)	Total % (7)
Harvest	990	105	26,275	89,000	158,000	247,000	33
Conversion	1,235	131	32,845	111,250	197,500	308,750	41
Administration, Management, Protection	30	3	800	3,750 (d)	3,750 (d)	7,500	1
Recurrent, Protective, Administrative	55 (120) (c)	12	1,530 (b)	7,350 (b)	7,050 (b)	14,400(b)	2
Recurrent, Maintenance	25 (50) (c)	6 (b)	715	3,430	2,620	6,050	1
Non-Recurrent(a)	672 (1400) (c)	149 (b)	17,900	84,065 (d)	84,065 (d)	168,130	22
Total	3,007	406	80,065	298,845	452,985	751,830	100

(a) The non-recurrent work in table 7 is arbitrarily assigned to a ten-year period.
(b) Calculated for an employment period of 120 work days per year.
(c) Figures in parenthesis are numbers of employees required for a season of 120 work days per year.
(d) Half the total is arbitrarily assigned to each major ownership group.

* Table 8 used as reference in Appendix 1.

AUXILIARY MEASURES TO PROMOTE EMPLOYMENT AND WELFARE

A well-rounded peace-time program will emphasize certain public enterprises that strategically affect the employment and welfare of people. Some of these enterprises such as old age retirement, housing and health programs are attaining prestige as social necessities. Experience shows that they fulfill basic needs of modern communities. There is every reason to expect that measures described under this section will have a prominent place among post-war activities.

Old Age Retirement

There were 2900 men and women 65 years of age or over in Linn County in 1940. The census record for Linn County does not segregate the farm operators and the members of the urban working force who are 65 years of age or over. But by applying the percentage of farmers in the State who are over 65 years of age to the total number of farmers in Linn County, a rough estimate was secured which serves the purpose here. According to this estimate there were 572 farmers in Linn County 65 years of age or over in 1940. Applying a similar percentage to the urban working group, there would be approximately 700 people of the working force in urban centers in Linn County who were 65 years of age or over in 1940.

If this entire group of 2900 men and women received $50 a month pension, it would represent an expenditure of $1,740,000 annually. This would amount to approximately $150 a year for each of the employed persons in the working force in Linn County, including farmers, if the cost were divided evenly among them all, and if all 2900 elected to receive pensions.

It has been mentioned in the analysis of agriculture that the increase in purchasing power resulting from a more complete and more efficient utilization of labor on farms might enable farmers to contribute as much as $100 per year toward a pension program, designed to provide $50 per month for persons over 65 years of age. A similar ability to save for old age should be possible through the increased income of others who, as a result of more vigorous economic activity, are able to utilize their labor more effectively than before. These new sources of income result directly from an increased and more effective use of man power.

Until all laborers included in the low-income groups can have their earnings raised sufficiently by full employment and adequate pay, to enable them to contribute to a retirement fund, money for this purpose would necessarily have to be derived through taxation of higher incomes, if the old age dependency problem were handled.

The soundness of a policy based on increased income is evidenced by the record of income distribution. In 1935 and 1936 59.1 per cent of the people in the United States who received 27.6

per cent of the national income spent 25.7 per cent more than they earned in private employment or enterprise. The difference represents public relief, W.P.A. income, increase in debts, and similar items. This category includes the low income groups in Linn County. By readjustments of the type illustrated in this analysis a majority might be raised out of this group and become a part of the 30.1 per cent of the people who received 34.6 per cent of the national income and who were able to save 14.9 per cent of the total savings in the United States. Two per cent of the people who received 11.8 per cent of the national income were able to save 31.5 percent of the national savings. And lastly, .21 of 1 per cent of the people who received 8 per cent of the national income were able to save 31.4 of the national savings. 1/

Such a pattern of income distribution inevitably results in a situation where most people of ages past 60 or 65 are dependent. Under these conditions, net earnings must constantly be channelled from the top brackets of income to the bottom, in order to support at a poverty level unemployed, aged, and otherwise dependent people. The social implications of such a situation are not entirely compatible with democratic life, however, and the underprivileged position occupied by low income people will eventually create unwanted attitudes and customs.

A far better procedure in the long run will be the support of pension programs, as well as other basic needs, directly and primarily from increased earnings of workers and farmers. The present analysis is based on this premise. A pension program for Linn County is considered necessary, and the elevation of incomes is considered a sound method of providing the primary source of funds to finance such pensions.

Agriculture needs a system of retirement whereby the equities of older farmers in real estate may be transferred to a non-profit association or corporation which administers well planned and built small retirement holdings. Older farmers do not want idleness. They need security, gardens, a few livestock, and proper housing. All of these things can be provided. The declining years of older farmers who are struggling against heavy odds to keep their homes, which are inseparable from their farms, present a problem which needs some reasonable solution. A well designed plan could meet this problem, and at the same time enable young families to obtain farms.

Housing

During the period in which data were gathered for the present analysis, a rough appraisal of the rural housing situation in Linn County was secured by a "horseback" survey and classification of all farm houses along various roads. The houses were classified into six groups as shown in Table 33.

1/ Compiled from National Resources Planning Board report on "Consumer Income in the U.S." 1939, Table 8.

Table 33

Classification of Houses in Rural Areas of Linn County Made by Observations of Every House Passed in Trips by Automobile

Classification	Valley Area		Hill Area	
	Number	Per Cent	Number	Per Cent
Total	168	100.0	483	100.0
New-adequate	16	9.5	49	10.1
Adequate	36	21.4	101	20.9
Old but useable	66	39.3	93	19.3
Poor - tumble-down	29	17.3	38	7.9
Inadequate - shack (new and old)	13	7.7	191	39.5
Abandoned	8	4.8	11	2.3

As a rough measure of environmental surroundings in the hill sections where subsistence and part-time farming predominate, 149 farm yards were classified on the basis of observations made while tabulating houses. Of the total, 53.7 per cent were classed as "poor". This included places showing no attempt at all to improve home surroundings. Some had meager gardens. But most of these homes showed very little attempt to improve the surroundings. Thirty per cent of the total number were classed as "mediocre". These places showed that some attempt had been made to improve the surroundings but without any striking results. Twenty-two out of 149, or 14.7 per cent, were classed as "well-cared for". These homes had good gardens, fruit trees, and flowers, with some attention paid to lawns. Only 2 out of the total were classed as "excellent". These two farms were well cared for, had fine gardens, many flowers, and a good home orchard, with well-kept lawns and arrangements designed to make the yard a serviceable as well as an attractive area.

It would appear from the data in Table 33 that any post-war employment program should include ample provision for the remodeling of many old but useable buildings, the removal of many others too old or inadequate for use, and the construction of many new farm houses. The preliminary observation of housing indicates that 70 per cent of the farm houses need repair or replacement.

It is estimated that 500 new houses could well be included in a peace time rural construction program. Many other houses need major and minor repair. These estimates take into account modifying factors including permanency of farmsteads. A well planned farm building program might involve the expenditure of from $1,750,000 to $2,500,000 in the next ten years. This would employ from 40 to 70 local people directly in building work, and require from $800,000 to $1,200,000 for materials. In addition,

an unknown but large number of village and urban houses need replacement or repairs.

It is assumed in this report that new houses would be adequate in terms of the standards suggested by the U. S. Department of Agriculture in Miscellaneous Publication No. 475. This calls for a three-bedroom house, substantially built, with storage space, work porch, bathroom, running water, flush toilet, and good light and ventilation.

Experience in the 1930's has clearly demonstrated the practicability of financing and building arrangements which enable the construction of satisfactory farm houses at low annual costs. With credit at 3 per cent $43.26 will amortize $1000 in 40 years. Adding 2.5 per cent for depreciation and 1.5 for maintenance the annual cost of a $3000 house would come to $249.78 or $20.81 per month.

Various methods would have to be explored to establish the tenure conditions which would provide an acceptable basis for a housing program. Tenant-occupied farms, and those under mortgage, cannot be improved without satisfaction of the various interests concerned. This problem can be solved by use of policies which are designed to meet the several important types of tenure situations, namely, clear ownership, ownership with mortgage, purchase contract, and leasing under various forms of public and private ownership. Where the farm is mortgaged, legal separation of the farmstead from the farm land is a possibility which may deserve investigation. Problems of this type, and policies to meet them, should be considered at the present time to avoid serious restriction of important phases of the post-war program.

Health and Medical Care

In recent years the need of an adequate health and medical care program, which could provide service to all individuals regardless of economic status, has been recognized as essential to the welfare of the country. Medical examinations of young men under the Selective Service program have disclosed surprisingly adverse health and dental conditions which have resulted in the rejection of over one million draftees as unfit for military service. A similar condition was disclosed by medical examinations in the last war. The fact is apparent that a majority of American people do not receive proper health, medical and dental service. A survey which was conducted through FSA county rural rehabilitation offices in 1941 showed that 6.5% of the farm families who owed money to the Farm Security Administration had health problems in January of that year which seriously jeopardized the conduct of their farm programs.

A large expansion of the health and medical service program appears to be one of the soundest elements which can be included as a post-war undertaking. In order to arrive at some idea of what might comprise a complete health, medical, and

dental service in Linn County if adequate facilities were provided, an estimated budget has been prepared which would (1) provide complete medical and dental care for every individual residing in the county, (2) inaugurate a public health program embracing all the principles of preventive medicine, sanitation, and public health education, and (3) completely correlate the preventive medicine or health program with a remedial program.

A copy of this budget, which gives an indication of the type of plan which might be used, is attached as a supplement to this report. This brief plan is only illustrative, and it should be regarded as a method of estimating costs and services rather than a proposed project. Further analysis of conditions in the county will be needed before a project of this type can be competently planned.

The tentative analysis shows that in order to render complete medical and dental service the population of Linn County would require approximately 150 to 160 doctors, dentists, nurses, sanitary engineers, and others concerned with health problems. Facilities to be used in conjunction with such a staff would represent an appreciable expansion in comparison with present facilities. The funds required annually for provision of adequate service would be in the neighborhood of $700,000. An investment of nearly $1,000,000 additional funds would be needed in hospital and clinic facilities. The average cost per person for both the health program and medical and dental program would be in the neighborhood of $28 annually. This is in line with the cost of similar service rendered by industrial concerns and urban hospital associations.

It is obvious that such a program can be supported if the level of incomes received by people in the county is at a point consistent with full employment. But it is equally obvious that such a program cannot be established and maintained as long as a majority of the people in the county are underemployed and on a low-income basis.

It should be mentioned in passing that the expenditures for medical service would contribute substantially to a more vigorous economic life in the area. Not only would people be more efficient as a direct result of a proper medical program, they would also be supporting a needed enterprise which would employ people requiring goods and services representing local market demand. A medical program, similar to a public works construction program, would help solve unemployment in Linn County.

Rural Electrification

The Census shows a total of 1464 1/ farms in Linn County receiving highline service in 1940. This is but 44.0 per cent of all farms in the county, leaving 1831 farms in the

1/ 1940 Census of Agriculture, First Series, Table X.

county without service. The fact that power is not used more widely is due in part to a lack of facilities. Only 1808 1/ farms in the county are located within a quarter of a mile of available highline service. This leaves 344 farms which are within reach of the service but not connected.

The analysis of present farm income offers the principal explanation for the failure of 344 farmers to utilize existing facilities. No doubt, it is an important factor affecting the extension of service to all areas. It would follow that any program or activity which would raise the general level of income would promote, and be facilitated by, electrification of farms.

There are many ways in which electricity can be used to advantage on the farm. The Extension Service of the Oregon State Agricultural College and the U. S. Department of Agriculture have compiled a list, given in Table 34, covering electric appliances for use in lightening the tasks in rural areas.

Table 34

List of Electric Appliances Used in the Farm Homes and in Farm Operation

Electric Appliances Used in the Home. Give Number. Example - Clock (1)

Clock ( )	Electric Razor ( )	Heating Pad ( )	Refrigerator ( )
Clothes dryer ( )	Electric Fan ( )	Hot Plate ( )	Roaster ( )
Coffee Maker ( )	Food Mixer ( )	Iron ( )	Sandwich Grill ( )
Corn Popper ( )	Furnace Fan ( )	Ironer ( )	Sewing Machine ( )
Curling Iron ( )	Electric Heater ( )	Radio ( )	Furnace Motot ( )
Dish Washer ( )	Heat Lamp ( )	Range ( )	Sun Lamp ( )
Vacuum Cleaner ( )	Waffle Iron ( )	Toaster ( )	Misc. Equip. ( )
Washing Machine ( )	Water Heater ( )	Pumping domestic water ( )	

Equipment on Farm Operated by Electricity. Give Number Used.

Dairy:	Poultry:	General:	Fruits, nuts, and hops:	Shop:
Cream Separator ( )	Brooder ( )	Alarm System ( )	Dryer ( )	Grinder (
Ensilage Cutter ( )	Egg Cleaner ( )	Corn Sheller ( )	Grader ( )	Drill (
Feed Cutter ( )	Egg Humidor ( )	Fanning Mill ( )	Insect Traps ( )	Welder (
Milker ( )	Heating ( )	Feed Elevator ( )	Juicer ( )	Misc. (
Refrigerating Unit ( )	Incubator ( )	Feed Grinder ( )	Spray Plant ( )	
Sterilizer ( )	Lights ( )	Feed Mixer ( )	Washer ( )	
Steam Boiler ( )	Ventilation ( )	Hay Hoist ( )	Baler ( )	
Water Heater ( )	Water Warmer ( )	Irrigation pumping ( )	Elevators ( )	
Miscellaneous ( )		Lights - Yard ( )	Refrigeration ( )	
Stockwater Heater ( )		Paint Sprayer ( )		
Green House & Gardens: ( )		Pig Brooder ( )		
Heating ( )		Buzz Saw ( )		
Hot Beds ( )		Stump Burner ( )		
Soil Sterilizer ( )		Electric Fence ( )		
Ventilation ( )				

Footnote: From letter sent out by Extension Service in Marion County, Oregon, in connection with a survey of power use.

1/ 1940 Census of Agriculture, First Series, Table X.

The results of a survey made by the Extension Service in Marion County, Oregon show that present uses of electric power on farms are confined largely to a relatively few available appliances for farm homes and a still smaller percentage for possible farm uses. Electric fencing is perhaps the most popular farm use outside of lighting. If irrigation development takes place on any appreciable scale, the use of power for pumping would grow rapidly.

A greater use of power on farms would add directly to the level of living and would make farm life more attractive by lessening the discrepancy between farm and urban standards. Full use of electric energy, coupled with an adequate cash income, would do much to reverse the present trend away from the family farm as an acceptable pattern.

In addition to raising the level of living directly, the expansion in use of electric energy to all farms and to a growing number of tasks on those farms would increase employment in both Linn County and elsewhere. On the basis of the record, existing employment in the various activities incident to power utilization could well be trebled by a reasonable expansion of rural electrification.

The availability of public power from Bonneville Dam and the availability also of the Public Utility District as an institutional device for cooperative distribution of power provides the favorable conditions for a rapid expansion of both rural and urban use of electric energy. No area in the United States is better situated for a full utilization of power.

Community Development

Some mention has been made in the previous discussion of the need for community development. Much can be done in all rural communities to enrich the experience and environment of rural people. No extended survey was undertaken in connection with this preliminary study, although some specific projects are listed. The services of a town and community planner would undoubtedly open up a challenging program of post-war development.

It is estimated by the Federal Works Agency that the projects shown in Table 35 can be justified as self-liquidating public works in the post-war period. The number of persons employed which these cost estimates indicate would, of course, depend upon the wage base used. At an average of $1800 per year this work would employ 74 men locally for a period of six years and about the same number for a similar period in areas supplying the raw materials.

The results of a survey made by the Extension Service in Marion County, Oregon show that present uses of electric power on farms are confined largely to a relatively few available appliances for farm homes and a small number particularly for poultry farm uses. Electric brooding is perhaps the most popular farm use [illegible]. If [illegible] on any appreciable scale, the use of power for pumping would grow rapidly.

A greater use of power on farms would add directly to the local trading and would make farm life more attractive by lessening the discrepancy between farm and urban standards. Full use of electricity, coupled with an adequate farm income, would do much to remove the present urban away from the family farm as an undesirable category.

[illegible] promotion in use of electric energy on all farms and to a greater number of farms on those farms would increase employment in both farm country and elsewhere. On the basis of the recent, debating [illegible] in the vacation's activities incident to power utilization could well be treated by a reasonable expansion of rural electrification.

The availability of public power from Bonneville Dam and the availability also of the Public Utility District as an institutional device for economical distribution of power provides favorable conditions for a rapid expansion of both rural and urban use of electric energy. In area in the United States is better adapted for a full utilization of power.

[illegible]

Some analysis has been made in this previous discussion of the need for community development. Much can be done in all rural communities to enrich the experiences and environment of rural people. To expanded survey was undertaken in connection with this project [illegible] services of a town and community planner would undoubtedly open up a challenging program of post-war development.

It is estimated by the Federal Works Agency that, the projects shown in Table 25 can be instituted as soon-if-publication public works in the post-war period. The number of persons employed under these each activities indicate would, of course, depend [illegible] work would employ 74 men locally for a period of six years and about the same number for a similar period in areas supplying the raw materials.

Table 35

Approximate Public Works for Six-Year Post-War Period
Linn County

		Labor	Material
County Work		$ 202,391	$ 165,593
1. Construction - new roads	25%		
2. Reconstruction & surface old roads	75%		
Cities		290,655	355,245
1. Sewage disposal improvements	30%		
2. Water supply	20%		
3. Streets, sidewalks, etc.	25%		
4. Parks, recreation, misc.	25%		
Irrigation Districts		18,000	6,000
1. Construction - new canals and laterals	50%		
2. Develop water	50%		
Total		$ 511,046	$ 526,838
		$1,037,884	

From estimate by Harlan B. Branson contained in letter from Wm. Bartlett, State Director, Federal Works Agency, to Walter E. Packard, June 23, 1942.

In addition to these projects the fifteen year highway program for the county calls for the following:

U.S. 99	
Reconstruct 5.5 miles (Albany North) (50% labor @ $5.00)	
Grading and Structures	$ 140,000
Pavement	180,000
Over-head RR Crossing	40,000
Reconstruct and widen Halsey to Harrisburg 8.9 miles	450,000
U.S. 20	
Construct new road Sweet Home East 10 miles	2,500,000
Lebanon - Sweet Home 14 miles - resurfacing & repair	30,000
4 miles South from Scio toward Crabtree - regrade and surface	45,000
Thomas Creek to Lyons - widen and surface	135,000
St. 228 Brownsville - Crawfordsville 4 miles - grade, surface, oil	85,000
45 miles Foster to State Highway 222 - heavier surface	450,000
Total	$4,055,000

This work would employ approximately 225 men for a period of ten years. About half of them would be employed in Linn County and half in the centers supplying materials.

Incidently it may be pointed out that any increase in the incomes of farmers would increase the funds available for the repayment of these costs, since it permits a freer use of automobiles for family use. Depression conditions would make the fiscal problem more difficult.

Flood Control

Although rapid irrigation development may be restricted by various conditions, the construction of multiple-purpose storage dams might proceed on the basis of their immediate value as flood control projects and their certain ultimate value for irrigation. The Division of Army Engineer Corps reports upon the Willamette Valley Project: "The division engineer states that complete protection of the areas in the Basin subject to overflow either by a system of levees alone or by a combination of reservoirs and levees is not now warranted by the resulting benefits. He finds, however, that partial protection of the most important areas can be obtained either by the storage of flood waters in reservoirs located on the major flood-producing tributaries or by a system of levees. The plan developed for control by storage provides for the construction of seven reservoirs controlling 3456 square miles of drainage area and having a usuable flood-storage capacity of 1,345,000 acre-feet. This system of reservoirs, estimated by the Division Engineer to cost $51,512,000, would largely eliminate damage on the tributaries upon which the reservoirs are located, and would greatly reduce losses on the main stream. It would not, however, reduce major floods below a damaging stage. The Division Engineer estimates that this plan would reduce average annual flood damages within the basin from $1,693,000 to $349,000, a total of $1,344,000, and that in addition there would be an enhancement of property values for which he credits the plan with an annual value of $182,000, bringing the total flood control benefits of the reservoir system to $1,526,000 annually. These benefits capitalized at 5 per cent would be $30,522,000, a sum which he finds to be the expenditure warranted in the interest of flood control. The general dike plan developed to effect the same reduction in annual damages obtained through the reservoir system is estimated to cost approximately $33,000,000. The Division Engineer states that if all storage costs had to be carried by flood control, levees for such partial protection would be more economical than reservoirs and could almost be justified by the resulting benefits. He considers, however, that as a large part of the storage provided for flood control can be utilized to serve other purposes which can carry a part of the storage cost, the most economical plan for over-all coordinated development necessitates the construction of such reservoirs for multiple use. 1/

1/ "Willamette River and Tributaries, Oregon", document no. 544, House of Representatives, 75th Congress, 3rd Session, Pages 3-4.

It is possible that a re-evaluation of the factors involved and a redefinition of policy with reference to assessments against benefited interests may lead to the justification for construction of part or all of this project in the post-war period. Three of the reservoirs contemplated are in Linn County.

The estimated cost of the three reservoirs in Linn County is given in Table 36, , together with the estimated proportion of total costs chargeable to labor. At an average wage of $1800 per year this construction work would employ 738 men for a period of ten years in Linn County and twice that many elsewhere in providing materials and equipment.

Table 36

Estimated Cost of Proposed Reservoirs in Linn County

Reservoirs in Linn County	Labor One-Third of Total Cost	Total Cost
Detroit	$ 9,000,000	$ 27,000,000
Sweet Home	3,600,000	10,800,000
Holley	700,000	2,100,000
Total	$13,300,000	$ 39,900,000

Total includes dams, reservoirs, altered roads. All total estimated as up to the present.

Secured from: U. S. Army Engineers

The task of selecting and planning post-war public works construction projects is being handled largely by the public works reserve program of the Federal Works Agency. The list of major and semi-major public works listed here is not intended to be complete. The need for expanding educational facilities, for example, has not been mentioned, although the county requires better school buildings, more and better equipment, and more teachers. The forestry section of this report covers one important phase of needed conservation work. Erosion control, weed control, community improvement projects, and other major and minor types of projects will be given competent attention by the public works reserve group.

In reference to any discussion of secondary sources of employment and income, the reader should have in mind the elaborate system of public services provided by agencies which are at present operating in Linn County, and which have expanded during recent years very substantial sums of money.

An enumeration of the agencies which are active in the county includes the following: The Agricultural Extension Service, the Agricultural Adjustment Administration, the Soil Conservation

Service, the Farm Security Administration, the Farm Credit Administration, the U. S. Forest Service, the Department of Education, the Department of Public Health, the Federal Security Agency, the Works Projects Administration, the National Youth Administration, Oregon State Highway Commission, the State Welfare Commission, the O and C Forest Administration, and the various agencies and activities of State and County Governments. Undoubtedly this list could be expanded.

During the past twenty years, over $4,000,000 has been spent on State highways in the county. Over $1,000,000 has been spent on forest highways. W.P.A. expenditures through 1940 totaled approximately $1,000,000. Public Welfare expenditures through the State Welfare Commission totaled $750,000 since 1936. Farm Security Administration loans and grants totaled nearly $400,000. These expenditures indicate the amounts of funds that have been spent during recent years. There is undoubtedly a close relation between the amounts of these expenditures and conditions of poverty and unemployment which have existed. Expenditures of this order will pay interest on a heavy investment which might be required in any program which promises to give more permanent, constructive solutions to the depression problems which have been paramount in the 1930's, and which may re-appear in aggravated form during the post-war period.

SUMMARY

The following assumptions have been made:

1. Solution of chronic economic problems affecting basic enterprises (agriculture and timber in Linn County) is the necessary starting point in sound planning for post-war life.

2. A relatively high level of living will be necessary after the war if business stagnation and unemployment are avoided.

3. Farmers must be fully and effectively employed if they are enabled to obtain this necessary level.

4. Adequate land resources per family, competent management, and use of labor saving equipment, are essential throughout the agricultural enterprises to avoid rural poverty.

5. Full employment and earnings among farmers creates demand for goods and services, and jobs for non-farm workers.

6. Establishment of sustained yield conditions and sound conservation practices throughout Northwest forests are essential to the economic welfare of the area.

7. Public works projects such as housing, road construction, land development, conservation, and stream control, must be used to absorb the shock of economic dislocation during a transition period when peace comes, but these enterprises cannot be relied upon for permanent support of masses of workers. Employment in the production of ordinary goods and services for full consumption is the main avenue to solution of the so-called post-war problem.

Summary of Situation in 1940

There were 1013 unemployed people in Linn County in April 1940 in addition to 347 persons on emergency public works.

More than two-thirds of the farmers in Linn County, 2252 of them, had gross farm incomes ranging from less than $250 to $1499, including the value of production for home use.

Nine hundred and eighty-nine of these low-income farmers were underemployed urban workers seeking to supplement inadequate wage incomes by farming on the side. An estimated 1500 additional urban workers were underemployed.

Three hundred and ninety-two part-time farmers were working on other farms to supplement an inadequate farm income.

The balance of 2252 low-income farmers were operating inadequate enterprises on a basis which utilized but a part of their normal number of working days each year. This resulted in a high average cost of operation and low gross and net returns.

An appreciable proportion of the remaining farmers were conducting enterprises too small to produce satisfactory net incomes.

It appears, from these facts, that unemployment, underemployment, and ineffective employment in both rural and urban areas seriously limit wealth production and the income which flows from it. This, in turn, reduces the number of people that can be supported properly by the resources of the county. It is estimated that the economic status of over 5000 of the working force in the county is adversely affected by low earnings and underemployment. Furthermore, the forests of the county were being depleted by methods of cutting which will almost certainly remove opportunities for employment in the future. Sound management of this primary natural resource, except on government-owned land, appeared to be lacking.

Possible Effect of Full Employment

In order to arrive at some estimate of the possible effects of an economic program for Linn County upon employment and income, an attempt has been made to prepare a trial balance. No two people would arrive at the same figures in making calculations of this character. The essential meaning of the illustration, however, is important. No special defense is offered for the figures used. They might be higher or lower depending upon the weight accorded to the various factors.

It can be said quite definitely that the income of 4000 or 5000 persons of Linn County might be raised appreciably by adjustments which would eliminate unemployment, reduce underemployment, and make employment more effective through mechanization and better management. If a well designed peace-time program for the county were carried out the account might stand as follows:

1. 730 underemployed and ineffectively employed farmers might be provided with full sized farm enterprises.
2. The equivalent of at least 80 new farms might be provided by irrigation, drainage, and land clearing and an indefinite additional number when and as market conditions justify such expansion.
3. 600 farm laborers might be provided with well-planned part-time farms, so arranged as to permit low cost production for home use, better use of employed time, and greatly improved living conditions.
4. 200 forest laborers might be provided with part-time farms, so arranged as to permit low cost production for home use, better use of time, and improved living conditions.
5. The equivalent of 472 additional man years of work might be provided in the conservation and management of the forests under conditions that would give maximum continuity of employment.

[illegible] farmers were sup- [illegible]

[illegible] on and the income which flows from it. This [illegible] Furthermore, the forests of the county were being depleted by methods of cutting which will almost certainly remove opportunities for employment in the future. Sound management of this primary natural resource, except on government-owned land, appeared to be lacking.

[illegible]

In order to arrive at some estimate of the possible effects of an economic program for Linn County upon employment and income, an attempt has been made to prepare a trial balance. No two people would arrive at the same figures in making calculations of this character. The essential meaning of the illustration, however, is important. No special defense is offered for the figures used. They might be higher or lower depending upon the [illegible].

It can be said quite definitely that the income of 4000 or 5000 persons of Linn County might be raised appreciably by adjustments which would eliminate unemployment, reduce underemployment, and make employment more effective through modernization and better management. If a well designed peace-time program for the county were carried out the account might stand as follows:

1. 72 underemployed and ineffectively employed farmers might be provided with full sized farm enterprises.
2. The equivalent of at least 80 new farms might be provided by irrigation, drainage, and land clearing and an indefinite additional number when and as market conditions justify such expansion.
3. 600 farm laborers might be provided with well-planned part-time farms, so arranged as to permit low cost production for home use, better use of employed time, and [illegible] improved living conditions.
4. [illegible] might be provided with part-time farms, so arranged as to permit low cost production for home use, better use of time, and improved living conditions.
5. The equivalent of 472 additional man years of work [illegible] in the conservation and management of the forests under conditions that would give [illegible] continuity of employment.

6. 1570 persons over 65 years of age, now in the working force might be given the opportunity to retire on pensions sufficient to maintain their buying power.
7. 1570 new openings in jobs and on farms might be provided for unemployed and underemployed people as a result of the retirement of those over 65.
8. From 80 to 140 persons might be employed in a new housing program for both rural and urban areas.
9. 80 persons might be added to the health and medical staff.
10. 10 persons might be added to the agricultural staff to provide management service to farmers.
11. 150 additional persons might be employed in local retail and service establishments, to provide services which those listed above will be in a position to demand as a result of their increased employment and income.
12. 2000 people might be employed to produce the things which increased employment and increased income would permit the people of Linn County to buy. Some of these people could be added to manufacturing concerns within the county, but others would be employed in Portland, Detroit, mill villages in New England, cotton fields of the South, and elsewhere.

The total of these groups is approximately 7500 which exceeds by 2500 the estimated number included among the unemployed and underemployed in Linn County in 1940. This increased employment does not take into account construction of highways, flood control facilities, irrigation works, community improvements, and other projects of that nature. These projects and further agricultural expansion would be available for the emergency employment of others, particularly those who may suddenly be released from war employment or service.

The assimilation of soldiers, sailors and war workers into the peace-time economy of the nation will require the types of action throughout the county that are discussed in this Linn County, Oregon report. In areas where industrial production predominates, specific programs to provide transition employment will undoubtedly be needed. The demand for workers will depend ultimately, however, upon full consumption of goods and services throughout the country. A balance must be obtained between temporary public employment projects and measures which invigorate production and demand for ordinary goods and services. If chronic problems are faced frankly and solved, the requirement for mass employment programs of the W.P.A. type may be reduced.

A constructive peace-time program must invite the participation and leadership of local residents who are affected. Common people everywhere must have the opportunity to understand both the nature of their problems and the kinds of remedial action which will be needed. Preservation of democracy requires intelligent participation by local people in the planning and administration of public activities.

The summary given above may be optimistic, on the other hand it may under-estimate the manifold possibilities which exist when the latent features of modern culture are given positive expression. The peace-time period presents an opportunity of great proportions, but it holds possibilities of appalling distress as well. The spirit engendered among people may be a decisive factor. If people have reason to believe that chronic problems of unemployment and economic privilege are being faced courageously and solved, they will accept temporary discomfort with traditional American resiliency and good nature. The great danger lies in a disposition to sidestep these problems which prevailed during the recent depression period. The same problems will reappear in different form. They must be handled effectively at their source.

Statesmanship in planning for the peace-time period will come from a clear recognition of these basic needs and from knowledge among many people of methods which may be used to build a decent world in these terms.

This exploratory study of Linn County, Oregon could only describe broadly the major problems and the more important avenues of solution. Further work must be done. If the array of facts seems inadequate, this indicates the magnitude of that part of the job. If the description of possible employment programs and measures seems incomplete, another monumental task is indicated. If the conclusions seem general or utopian, this may show how vaguely we understand the direction we are traveling and the meaning of what has gone before. It should be clear, however, that people will not wait for the planners, the scientists, the politicians or the economic leaders in meeting a crisis during the after-math of this war. It behooves us therefore to bring together the knowledge and ideas we have, not in an academic way, but in preparation for action because certainly positive action will be needed.

THE EMPLOYMENT CAPABILITIES OF FOREST LAND IN LINN COUNTY OREGON

INTRODUCTION

It is necessary to attempt some distinction between farm forestry and industrial forestry because the conditions of employment are not the same in one as in the other, and irrespective of any contribution that farm forestry might make to the general welfare of Linn County, there is little or no farm forestry being practiced there at present. On account of this, what appears hereafter is concerned with industrial forestry and with the extensive forest properties in Linn County that are suitable for the industrial type of exploitation and organization that is typical in the Pacific Northwest.

The management of an industrial forest cannot be integrated with the management and operation of a farm; that is, it cannot become a farm chore and be allotted a portion of the farmer's labor to be performed at a certain time and place. But a farm forest is part of a farm, and farm-forestry operations are part of the regular farm work. If the farmer has an organized farm work plan, such farm forest jobs as wood-cutting, thinning, planting, fencing, rodent control, seed collecting, cutting fence posts and the like would appear in it the same as such farm jobs as plowing, sowing and reaping.

This distinction between farm and industrial forestry is accepted here as decisive because it affects the conditions under which employment is supported by forests. However, it has no relation to the kind or destination of products produced, nor to the relative amounts of forest and cultivated land on any given farm or group of farms.

The following is a classification of the different kinds of direct employment which industrial forests like those in Linn County, Oregon, may be expected to support:

I. Yearlong employment:
   A. In harvest and conversion of forest products.
   B. In administration, management, and protection of forest properties.

II. Seasonal (short-term) employment:
   A. Employment which recurs annually (recurrent).
      1. In administration and protection.
      2. In maintenance of improvements.
   B. Employment which does not recur annually in the same place and at the same time of year (non-recurrent).

These categories are comprised entirely of employment that is directly occupied with some phase of actual forest work. They include no service or dependent employment; e.g., in mercantile and professional callings, the incomes of which are earned by rendering services to forest workers; and they do not include any employment in transportation, financial, sales, and advertising enterprises, the incomes of which are obtained from some phase of the distribution of forest products.

Forest work as it is known at present separates naturally into yearlong and short-term employment because as a source of work the forest is affected very nearly as much as the farm by the march of seasons. Yearlong forest employment is supported by activities upon which the seasons have little effect. These activities are chiefly logging, milling, which operate on the average about ten months per year, and (in public forests) administration, but many other kinds of forest work; e.g., construction and maintenance of roads, trails, and telephone lines become either difficult or impossible during late fall, winter, and early spring. Moreover, the forest-fire and tourist seasons occur in summer, and even though logging and milling may go on the year round, they are usually most active in summer. The result is that forest work loads as constituted at present come to a peak in summer, producing numerous jobs for a short period, diminish in fall, and reach a minimum in winter.

As a rule, the summer period of heightened activity in the forest has coincided with a like period on the farm, so that even where large industrial forests are adjacent to sizeable farm populations, there have been comparatively few opportunities for farmers to engage in supplementary part-time woods work. Moreover, the big timber of the Northwest and the extensive use of complicated machinery for logging and conversion have required a number of special skills that the farmer usually does not acquire. This reduces the farmer's opportunities for part-time woods work still further, and together with the seasonal characteristics of woods work, has required and created a special department of labor which devotes itself almost exclusively to the exploitative phases of forest work.

The coincidence of busy periods on the farm and in the forest and the need of special skills, minimize the farmer's ability to perform supplementary forest work, but a distinction should be made between forest work which is supplementary to farming and agricultural pursuits which are supplementary to forest work. The Douglas-fir region, in common with other forest regions, contains numerous small farms and garden patches in or adjacent to the forests that are too small or too infertile to provide a complete living, and the occupants of these customarily work away from home part of the time. Their source of livelihood is a combination of part-time jobs - one on the farm, others in the woods or elsewhere. With them, farming is not a full-time occupation; rather it is usually a means to augment a meager standard of living.

[illegible] people are comprised entirely of employment that is [illegible] occupied with some phase of actual forest work. They [illegible] no service or dependent employment; e.g., in accessible [illegible] professional callings, the incomes of which are earned by [illegible] rendering services to forest workers and they do not involve any employment in transportation, financial, sales, and advertising enterprises, the incomes of which are obtained from some phase of the distribution of forest products.

Forest work, as it is known at present somewhat roughly [illegible] year-long and short-term employment because of a number of [illegible] the forest is affected very nearly as much as the farm by the [illegible] of seasons. Year-long forest employment is supported by activities upon which the seasons have little effect. These [illegible] activities are chiefly logging, milling, which operate on the average about ten months per year, and (in public forests) administration, but many other kinds of forest work, e.g., construction and maintenance of roads, trails, and telephone [illegible] winter, and early spring. Moreover, the forest-fire and tourist seasons occur in summer, and, though logging and milling may go on the year round, they are usually most active in summer. The result is that forest work tends as contributing to possible [illegible] come to a peak in summer, producing numerous jobs there, short-[illegible] marked, diminish in fall, and reach a minimum in winter.

As a rule, the summer period of heightened activity in the forest has coincided with a like period on the farm, so that even where large independent forests are adjacent to sparsely farm populations, there has been comparatively few opportunities for farmers to engage in supplementary part-time woods work. However, the big shift of the lumbering and the economic use of complicated machinery for logging and manufacture have required a number of special skills that the farmer usually does not possess. This reduces the farmer's opportunities for part-time woods work [illegible] lumber, and together with the seasonal correspondence of woods work, has required and developed a separate department of labor which devotes itself almost exclusively to the operative phases of forest work.

The continuance of many periods on the farm and in the forest and the need of special skills, minimize the farmer's activity in performing supplementary forest work, but a distribution should be made between forest work which is complementary to farming and [illegible]

The Douglas-fir region, in common with other forest regions, contains numerous small farms and farmer outdoors in or adjacent to the forests that are too small or too inferior to provide a reasonable living, and the occupants of these predominantly work [illegible] Their source of livelihood is [illegible] - one on the farm, others in the [illegible] farming is not a full-time occupation [illegible] usually a means to augment a meager [illegible]

Such part-time farmers and workers can and do accommodate themselves to the seasonal character of forest work and many acquire the necessary special skills. Some of the best short-term men employed by the Forest Service are part-time farmers and many work at logging and in sawmills. Most of the recurrent and non-recurrent work to be shown subsequently could be made available to part-time farmer-workers because most of it is either seasonal or could be adjusted to seasons.

The labor engaged in the exploitative phases of forest work may be classified after its occupations as (1) loggers, and (2) mill men, and the two together comprise a large majority of all forest-supported workers; but within the past 25 years or so the development of multiple-purpose management on the national forests and of organized fire protection on all ownerships of forest land has provided employment in a field of forest work which has little direct connection with logging and milling and is tending to develop its own specialized labor. The Forest Service, for example, now has available a certain number of men who can build roads, trails, telephone lines, fire lines and recreation improvements, or who can fight fire, thin and prune young timber stands, build check dams and other erosion controls, work in nurseries, plant trees, reseed range, and control poisonous range plants. Many of these, taken individually, are simple skills readily acquired, but generally a number are comprehended by a single man who, guised as a "foreman", combines the characteristics of the woodsman working native materials with those of the logger, carpenter, blacksmith, cat-driver, nurseryman and gardener. This man is not a pioneer, even though he may develop remote country upon occasion; he is a member of a special department of labor, the members of which are increasing.

It is likely that there are as many loggers and mill men in the Pacific Northwest at present as can be supported by their particular occupations - more, in fact, than can be supported permanently, since in 1929 the average number of wage earners in "Lumber and Timber products"* industries in Oregon and Washington was 93,402, whereas in 1931 it was 49,026 and in 1937 it was 84,755. The general indications are that the employment in these industries fell off about 10,000 men during the decade of the 1930's. On the other hand, work in development, improvement, management and protection of forest properties offers opportunities for employment which so far have scarcely been fully imagined. Whole categories of forest work, e.g., timber stand improvement, reforestation and wildlife management, proceed either on a trivial scale, or not at all; and other categories, e.g., public recreation, though fairly productive of employment in Federal and State forests, are not undertaken by private owners.

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* Data from Bureau of Census -- Biennial Census of Manufacturers -- as quoted by West Coast Lumbermen's Association in "West Coast Lumber Facts", April, 1941

YEARLONG EMPLOYMENT
In Harvest and Conversion of Forest Products

The area embodying the forest employment base for Linn County consists of those portions of the Cascade Mountains that are tributary to Linn County, namely the drainages of the North and South Santiam Rivers, including part of Marion County and certain parts of the upper drainage basin of McKenzie River. Some of the westward fringes where timber runs down toward the floor of the Willamette Valley are left out of the tabulations of area, volume and employment base, either because they might be converted to pasture in future, or because their resources are immaterial, or because they do not appear suitable for organization at present (Figure 1).

The higher parts of the forest area -- deep in the Cascade Mountains -- are chiefly national forest, and the lower parts are mainly private land. The lower parts also include what state and county land there is, as well as most of the revested land grants.* Upon the whole, the national forest land has a smaller productive capacity than private and other lands, and compared to private and revested lands contains a larger proportion of timber that is inoperable at present because it is either remote or poor in quality. For instance, on private land the average volume of old growth Douglas fir per acre of old growth Douglas fir type is 46 M ft. B.M., whereas on national forest land it is 33 M ft. B.M. Again, the average stand of timber (all species) per acre of private land (all types) is 40 M ft. B.M., whereas on national forest it is 26 M ft. B.M. This means that in certain respects private forest is superior to national forest. It contains more timber per acre, and the timber runs heavier to old growth Douglas fir. It also means that the possibilities for employment in extractive industries are greater per unit of area on private land than on national forest. In brief, private land is more fertile, and acre for acre will justify more work of certain types than national forest land. The revested land grant is comparable to private land in this respect.

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* The revested grant lands are the old Oregon and California and Coos Bay Wagon Road land grants, titles to which have been revested in the United States. They are in charge of the O&C Administration.

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The higher parts of the forest area -- even in the Cascade Mountains -- are chiefly national forest, and the lower parts are mainly private land. The lower parts also include what state and county land there is, as well as most of the revested land grants.* Upon the whole, the national forest land has a smaller productive capacity than private and other lands, and consequently private and revested lands contains a larger proportion of timber that is inoperable at present because it is either remote or poor in quality. The intensive [illegible] that is available [illegible] old growth Douglas fir per acre of old growth Douglas fir type [illegible] B.M. Again, the average stand of timber (all species) per acre of private land (all types) is 40 M ft. B.M., whereas on national forest it is 24 M ft. B.M. This means that in southern Oregon private forest is superior to national forest. It contains more timber per acre, and the timber runs heavier in old growth Douglas fir. It also means that the possibilities for development in extractive industries are greater per unit of area on private land than on national forest. In brief, private land is more fertile, and acre for acre will justify more work of certain types than national forest land. The revested land grants [illegible] private land in this respect.

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* The revested grant lands are the old Oregon and California and Coos Bay Wagon Road land grants, titles to which have been revested in the United States. They are in effect of the [illegible]

Tables 1 and 2 show the basic forest resources as they existed when the Forest Resource Survey data were issued in 1934. They consist of distributions of areas by principal cover types and of volumes by principal species among six categories of ownership or jurisdiction. Specific private owners are not given, but an idea of the general private ownership situation may be conveyed perhaps by stating that there are about 500 owners whose holdings aggregate 640 acres or less and about 20 owners who possess more than 640 acres each.

Funds with which to keep the Forest Resource Survey entirely up to date have never been available so that the 1934 data are now (1942) somewhat out of date. In view of this, the general changes in ownership which have occurred since 1934 should be indicated.

First, the national forest area has increased about 7000 acres through land exchange, and private holdings decreased correspondingly. The timber volumes involved in these exchanges were not sufficient to affect appreciably the distribution of volumes between private and national forest ownership.

Second, the revested land grants were put under administration after 1934, and in the course of this operation the information about these lands has not only been brought up to date but also has been organized in greater detail than was used in compiling tables 1 and 2. Thus the data given in these tables are not in actual practical use by the O&C Administration, but at the same time the tables are not sufficiently different from the newer information to require using the latter at the cost of lengthy, detailed, and perhaps confusing explanations.

Third, private forest land has gone into county ownership through tax forfeitures or otherwise, and the State Forester has been given authority to take over such lands and organize them into state forests. The operation of these processes and authorities has produced state ownership of about 27,000 acres and a corresponding decrease in private ownership, most of which is restocked cut-over. The indicated present yield for this area when calculated upon the same basis as used to obtain table 3 is much less than a million board feet per year, not enough to affect the general situation in Linn County materially.

Finally, although revised data concerning county ownership of forest land are not immediately available, it is known that county ownership is small, scattered, owes chiefly to forfeitures for unpaid taxes, and considering the organization of the state forests can hardly be more significant than tables 1 and 2 appear to indicate.

To sum up, tables 1 and 2, though somewhat out of date in minor details, show the general ownership situation to good advantage. Less than half the forest area, but more than half the timber, is in private ownership. Two-fifths of the timber and over half the area are national forest. The revested land grants, though relatively small, have enough timber and area to be significant. As far as size is concerned, other ownerships are not significant.

Tables 1 and 2 show the basic forest resources as they existed when the Forest Resource Survey data were issued in 1944. They consist of distributions of areas by principal cover types and of volumes by principal species among six categories of ownership or jurisdiction. Specific private owners are not given, but an idea of the general private ownership situation may be conveyed perhaps by stating that there are about 500 owners whose holdings aggregate 600 acres or less and about 70 owners who possess more than 5,000 acres each.

Funds with which to keep the Forest Resource Survey entirely up to date have never been available so that the 1944 data are now (1950) somewhat out of date. In view of this, the general changes in ownership which have occurred since 1944 should be interesting.

First, the national forest area has increased about 800 acres through land exchange, and private holdings decreased correspondingly. The timber volumes involved in these exchanges were sufficient to affect appreciably the distribution of volume between private and national forest ownership.

Second, the revested land grants were put under administration after 1944, and in the course of this operation has informed on about three times as much as had previously been brought up to date but also has been organized in greater detail than was used in compiling tables 1 and 2. Thus the data given in these tables are not in actual practical use by the BLM Administration, but at the same time the tables are not sufficiently different from the newer information to require making the latter at the cost of bringing down and [illegible] the [illegible].

Third, private forest land has gone into county ownership through tax foreclosures or otherwise, and the State Legislature has been given authority to lease over such lands and organize them into state forests. The operation of these properties and acquisitions has produced state ownership of about 20,000 acres and a corresponding decrease in private ownership, most of which is represented cut-over. The indicated present yield for this area when calculated upon the same basis as used to obtain table 1 is much less than a million board feet per year, not enough to affect the general situation in Lake County materially.

Finally, although revised data concerning county ownership or forest land are not immediately available, it is known that county ownership is small, scattered, owes chiefly to foreclosure for unpaid taxes, and consisting the organization of the state forests can hardly be more significant than tables 1 and 2 appear to indicate.

To sum up, tables 1 and 2, though somewhat out of date in minor details, show that general ownership situation to good advantage. Less than half the forest area, but more than half the timber is in private ownership. Two-fifths of the timber and over half the area are national forest. The revested land grants, though relatively small, have enough timber and area to be significant, but not so also in ownership, other ownerships are not significant.

TABLE 1

Areas of Cover Types in Acres

Forest Area Tributary to Linn County Including Parts of Marion County

Resource Survey Data as of 1934

	Ownership							
	Private	State	County	Revested Land Grant	Other Federal	National Forest Available	Total	National Forest Reserved
Douglas Fir - old growth	235,009	60	710	24,061	380	177,604	437,824	1,495
Douglas Fir - large 2nd growth	49,456		40	6,875	95	23,362	79,828	125
Douglas Fir - small 2nd growth	40,968		501	8,754	1,035	55,779	107,037	--
Non-restocking or recent cut-over	8,724		10	915	--	19,412	29,061	--
Deforested Burns	14,336		220	2,990	570	6,722	24,838	2,022
Non-timbered	11,494		60	120	15	10,985	22,674	7,693
Other types*	43,861		1,130	6,720	815	187,126	239,652	11,052
Total	403,848	60	2,671	50,435	2,910	480,990	940,914	22,387

* Includes miscellaneous types in which spruce, hemlock, cedar, pines, and reproduction of various species are found.

TABLE 2

Timber Volumes in Thousands of Feet Board Measure

Forest Area Tributary to Linn County Including Parts of Marion County

Forest Resource Survey Data as of 1934

	Ownership							
	Private	State	County	Revested Land Grant	Other Federal	National Forest Available	Total	National Forest Reserved
Douglas Fir - old growth	10,963,278	2,744	28,265	1,188,454	6,205	5,821,338	18,010,284	44,612
Douglas Fir - 2nd growth	1,535,567		2,234	114,162	3,316	2,484,806	4,140,085	24,386
Hemlock	2,717,057	1,086	4,284	387,424	965	2,127,800	5,238,616	8,131
Other Species*	1,149,332	62	1,765	30,813	140	2,234,221	3,416,333	128,020
Total	16,365,234	3,892	36,548	1,720,853	10,626	12,668,165	30,805,318	205,149

* Includes Cedar, balsam firs, Mt. hemlock, hardwoods, pines, etc.

Table 3 contains the results of calculations of the yield available on a sustained basis during the first rotation -- 110 years. The figures are derived from the volume and area inventory for Linn County, tables 1 and 2, and from the premises given in the footnote to table 3.

These calculations would not be suitable for actually establishing sustained yield in Linn County - they are insufficiently detailed - but they do give figures that are close to what could be expected. Of course, the yields indicated are not sustained yields in the popular sense of "cut equals growth." They are adjustment cuttings which would regulate the growing stock and establish conditions under which "cut" would become equal to growth sometime later - during the second and subsequent rotations. Thus there is a theoretical change in the size of the cut after the lapse of 110 years.

Table 3 illustrates a condition which usually exists when it is desired to make calculations of the type displayed in the table. Part of the volume consists of timber concerning which there is some question whether it will be utilized during the first rotation. The question arises because this timber is either remote, or relatively poor quality, or is composed of species which, not having been much used in the past, cannot be certainly predicted to become widely used in the future. About 15% of the indicated total yield would be derived from this type of timber.

The indicated yield is the employment base which depends on exploitable timber resources if managed for a sustained yield. Therefore, if it is uncertain whether 15% of the indicated yield is real and can be depended upon, it is also uncertain how much employment can be provided permanently by logging, milling, and kindred activities. In actually setting sustained yield enterprises afoot in Linn County, it would undoubtedly be safest to confine the annually-taken yield to an amount which can be sustained by timber that is known to be definitely merchantable. Such yields are shown in columns "2" of table 3. They are firm employment bases for Linn County.

The uncertainty of obtaining the remaining 15% of the calculated total yield without risking the permanent capability of the forest to sustain the total yield is an example of what might be called "the problem of inferior species". It is common to Northwest forest properties which include appreciable amounts of such species and it comes up in the general form given here when occasion arises to compute the sustained yield capacity of any given property. When properties under liquidation are being considered it arises in a different form. On such properties the existence of uncertain species does not materially affect the size of the annual cut because this has no relation to the productive capacity of the land. Instead, it depends upon how rapidly the owner desires to liquidate, and upon whatever working balance he strikes between this desire and the limitations which are imposed upon the size of logging and milling establishments by physical and economic factors.

Table 2 contains the results of calculations of the yield overall [illegible] Linn County, tables 1 and 4, and from the numbers given in the [illegible] 3.

These calculations would not be suitable for actually establishing sustained yield in Linn County - they are too crudely detailed - but they do give figures that are close to what could be expected. Of course, the yields indicated are not sustained yields in the popular sense of "cut equals growth." They are adjustment calculations which would regulate the growing stock and establish conditions under which "cut" would become equal to growth sometime later - during the second and subsequent rotations. Thus there is a phenomenal change in the size of the cut after the lapse of 140 years.

Table 3 illustrates a condition which usually occurs when it is desired to make calculations of the type of Table 2 in the absence of the volume constants of timber corresponding which serve as some guidelines whether it will be utilized during the first rotation. The question arises because this timber is either remote, or relatively poor quality, or is composed of species which, not having been much used in the past, cannot be currently predicted to become widely used in the future. About 15% of the indicated total yield would be derived from this type of timber.

The indicated yield in the analysis has been which depends on [illegible] timber resources if managed for a sustained yield. Therefore, if it is uncertain whether 15% of the indicated yield is real and can be depended upon, it is also uncertain how much employment can be provided permanently by logging, milling, and related activities. In actuality setting sustained yield conditions in Linn County, it would under many be needed to establish the normally-based yield to an amount which can be sustained by timber that is known to be definitely recoverable. Such yields are shown in columns "D" of table 4. They are then employment bases for Linn County.

The uncertainty of considering the remaining 15% of the calculated total yield without viewing the consequences especially of the forces to sustain the total yield is an example of what may be called "the problem of inferior species". It is common to [illegible]

TABLE 3

Indicated Yields* During First Rotation
Based on Resource Survey Data as of 1934

	Yield based on all species Millions per year (1)	Yield based on selected species** Millions per year (2)	Yield based on uncertainly operable species only*** Millions per year (3)
Private	157	139	18
Revested Land Grants	19	18	1
Other Public	1	1	-
National Forest	115	89	26
Total	292	247	45

* Yield calculations are based on (a) rotation - 110 years; (b) growth - 400 ft. B.M. per acre per annum on second growth Douglas-fir types only; (c) depletion - 10% of volume for fire, wind, bugs, etc.

** Selected species - All Douglas-fir plus 60% of hemlock.

*** It is regarded as uncertain whether forty percent of western hemlock and all "other species" will become operable during the first rotation. The figures in this column are the difference between figures in previous columns.

However, the liquidating owner operates strictly in the present, and if the future value of sound timber is doubtful, this generally means there is no present realizable value whatever. The timber may be abandoned on the stump and assume an indefinite status through tax delinquency, or it may appear as logging waste. For example, Hodgson's* studies of logging waste show that in relation to the volumes removed from the woods, extraordinarily large amounts of hemlock and "white" fir remained behind as waste, and these are, precisely, the species with an uncertain, unpredictable future.

TABLE 4

Capacity for Employment in Logging Linn County
Based on Indicated Yields During the First Rotation

	Number of Employees*		
Ownership	Based on All Species	Based on Limited Species	Based on Uncertain Species
Private	628	556	72
Revested Land Grants	76	72	4
Other Public	4	4	-
National Forest	460	356	104
Total	1168	988	180

* Four persons employed per million feet of output annually - logs.

* Logging waste in the Douglas Fir Region - Allen H. Hodgson, 1930

TABLE 5

Capacity for Employment in Milling (Conversion) Linn County Based on Indicated Yields During the First Rotation

Ownership	Number of Employees					
	Based on All Species		Based on Limited Species		Based on Uncertain Species	
	1*	2**	1*	2**	1*	2**
Private	471	785	417	695	54	90
Revested Land Grants	57	95	54	90	3	5
Other Public	3	5	3	5	-	-
National Forest	345	575	267	445	78	130
Total	876	1460	741	1235	135	225

* Columns headed "1" - 3 persons employed per million feet of output annually - sawmilling.

** Columns headed "2" - 5 persons employed per million feet of output annually - 2/3 sawmilling plus 1/3 plywood manufacture. This approximates the present situation in Linn County.

Tables 4 and 5 show the number of people that under certain conditions can be permanently employed in logging and milling. The figures were obtained by multiplying the calculated yields in millions of board feet per annum by the number of employees required to log or mill a million board feet per annum. In table 5 two sets of figures are given, one based on 3 employees per million which is about right for the small sawmill typical of Linn County; the other based on 5 employees per million which is a weighted average for sawmilling and plywood manufacture. It approximates the present situation in Linn County as a whole.

Some characteristics of these figures are as follows:

First, they are based upon calculated sustained yields which could be permanent insofar as the timber resource is concerned; therefore, the indicated employment could be supported indefinitely.

Second, it is likely that more than the calculated yield will be taken from private lands for a period, and afterward the cut will decline. During this period more people will be employed than the tables indicate, but the employment could not be permanent. However, the cut on the national forest and on the revested land grants will be held to amounts permissible under a sustained yield program so that under the conditions assumed, tables 4 and 5 approximate the number of people these ownerships will employ.

It may be said in general that about half the indicated employment will be stable as far as its supporting resource is concerned and half will be unstable with a tendency to wax exceedingly and then wane.

Third, the figures do not show how employment might be affected by fluctuation of the lumber market.

Fourth, the logging employment shown in table 4 must occur in the Linn County forest area, but appreciable parts of the conversion employment may occur elsewhere. During the period of heavy cut on private lands, large volumes of Linn County timber probably will be floated down the Willamette River and be milled either along the way or at Portland. The total amount of employment would not be decreased by this, but portions of it would be removed from Linn County.

Lastly, the figures on employment in milling are not absolute in any sense because they depend upon an intensity of manufacture which, although it is about what prevails in Linn County at present, is very nearly a minimum intensity. The employment in logging and milling of 7 per million feet of output per year probably is a minimum and results from the crudest manufacture possible, that is, simple conversion of logs into rough lumber.

Theoretically, it is possible for Linn County's forest products manufactory to support a considerably larger number of local employees than is given in table 4. It could be done if the timber, instead of being shipped out of the County in such simple forms as lumber (or even logs), could be manufactured there into consumers' products. A large number of operations are required to convert the standing tree into the consumer's product, and if more of these are carried on locally, the greater local employment will be. An illustration of this may be obtained from the tables by comparing plywood with lumber.

Plywood, a simple product in itself, is somewhat less simple than lumber and requires more operations and more employees to manufacture. While the sawmills employ about 7 men to work up a million feet of standing timber into lumber, the plywood plants employ about 12 to convert a like amount into plywood. Thus, if a larger proportion of Linn County's timber were to be manufactured locally into plywood, the local employment base would be larger, and any other increase in intensity of manufacture would have a similar result.

Beyond this it seems impossible to go, because to do so would require exploring large parts of the general question of decentralization of industry, and that is beyond the scope of this survey. However, it may be said that the low intensity of forest products manufactured in Linn County is an example of a condition which has been clearly recognized to prevail almost throughout the Northwest.

The Northwest has been a great reservoir of raw materials, and has depended to such an extent upon their extraction that the Pacific Northwest Regional Planning Commission in developing the preliminary statement for a regional development plan in 1940 found the following to be a major objective for the region:

To attain greater economic security and more stable employment, the Pacific Northwest should expand and diversify its commodity-producing industry - expecially that based on the manufacture of its raw material resources.

a. This implies less direct economic dependency upon those activities that involve the extraction and liquidation of raw natural resources and more dependency upon the creation of wealth through application of labor, skill and technological processes. The steps by which the region may attain this desired end are: (1) Discovery and development of new technology related specifically to low-cost hydro-electric power, to use of low-grade and waste materials from forest and farm, to the mineral resources existing in the region or capable of being economically imported; and (2) the stimulation of the necessary capital investment in plant and equipment through a national program appropriately designed for such purpose.

In Administration, Management, and Protection of Forest Properties:

Of the total forest area tributary to Linn County, comprising about one million acres, half is national forest under administration and protection of the Forest Service. A small area is under administration and protection by the O&C Administration, and the remainder, comprising nearly but not quite half, is in private, State, County, or other Federal ownership, and though not under administration, is protected by private owners and the State, in conformity with the State forest fire laws.* To summarize, the whole area is under protection and half of it is under administration also.

The only available criterion of administrative requirements is the experience of the Forest Service in administering the National forests. The gist of this has been obtained from a summation of personnel on the Columbia, Olympic, Rogue River, Snoqualmie, Umpqua and Willamette National Forests, and is to the effect that for areas similar to Linn County the national forests are using 2.4 year-round employees per 100,000 acres. This includes all categories of the year-long personnel - administrative, technical and clerical - and provides a degree of administrative and technical attention to the principal functions of wild-land management, including (1) general administration and planning, (2) improvement and maintenance (not development), (3) forest (timber) management, (4) recreation management, (5) wildlife management, (6) range management, and (7) protection.

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* A discussion of the forest fire protection system in effect in Oregon may be found on pages 56-58 of the Oregon State Agriculture Program to Meet the Impacts of War - Oregon State Land Use Planning Committee, May 1941

[illegible] a great reservoir of raw materials, and [illegible] to such an extent upon their exploitation that the [illegible] artificial planning framework [illegible] in development [illegible] preliminary statement for a regional development plan in [illegible] found the following to be a major objective for the region:

To retain greater economic security and more stable employment, the Pacific Northwest should expand and diversify the commodity-producing industry - especially those based on the manufacture of [illegible] materials.

a. This implies less direct economic dependency upon these activities that involve the extraction and shipping out of raw natural resources and more dependency upon the creation of wealth through application of labor, skill and technological processes. The steps by which the region may achieve this desired end are: (1) Discovery [illegible] to low-cost hydro-electric power, to use of low-grade and waste materials from forest and farm, to the natural resources existing in the region or accessible to it at economically important; and (2) the attraction of the necessary capital investment in plant and equipment through a national program appropriately designed for the [illegible] process.

In Administration, Management, and Protection of Forest Properties

Of the total forest area tributary to Alan County, consisting about one million acres, half is included forest administration and protection of the Bureau of Forestry. A small area is under administration and protection by the Oak Administration, and the remainder, comprising nearly half of the total, is in private, State, County, or other federal ownership, and lacking any under administration, is protected by private owners and the state. In conformity with the State Forest Fire Law,* the [illegible] protection, the whole area is under protection and half of it is under administration also.

The only available estimates of administrative requirements in the experience of the Forest Service in administering the National Forests. The staff of this has been estimated from a [illegible] of personnel on the Columbia, Olympic, Rogue River, Snoqualmie, Ochoco and Willamette National Forests, and is so the effect that [illegible] areas similar to Alan County, the national forests are using 2.5 year-round employees per thousand acres. This includes all categories of the year-long personnel - administrative, technical and clerical - and provides a degree of administrative [illegible] [illegible] attention to the protected [illegible] and [illegible] management, including (1) general administration and planning, (2) [illegible] and maintenance (not development), (3) [illegible] (including [illegible] management), (4) [illegible] management, [illegible]

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* A discussion of the Forest Fire Protection system in effect in Alan County may be found on pages 35-40 of the Oregon State Advisory [illegible] on Forest Fire Control in Alan - Oregon State Land [illegible]

The amount of work that can be done by this much personnel is known to be inadequate. Within the past three years the Forest Service has made detailed analyses of its work loads and the personnel required to handle them, with the result that present personnel was shown to meet about 78% of existing requirements. Thus, about 3 year-long employees are required per 100,000 acres, and the Linn County forest area would need a total force of 30. This would provide slightly more intensive management than the national forests receive at present - not enough to care for the more intensive development and use which unquestionably will occur in the future, but sufficient to meet moderate standards for work which is now neglected but should be done. Similar standards and similar work loads are not out of line for the half-million acres of Linn County forests which are not under administration.

SEASONAL (SHORT-TERM) EMPLOYMENT

Recurrent Protective and Administrative Employment:

The short-term force now in use by the same group of national forests from which the employment ratio for year-round personnel was obtained now uses 5.5 short-term or temporary employees per 100,000 acres. These are mainly protective men, lookouts, firemen, lookout-firemen, fire assistants on ranger districts, and so forth, but include also a small number (about 1 per 500,000 acres) of recreation attendants, temporary scalers, and administrative guards.

The State, County, and private forest lands in Linn County are protected by an association of private owners (see footnote, page 10). In 1940 the association employed 28 men, so that the ratio of short-term employees to area is almost exactly the same as on the national forests - 5.6 per 100,000 acres.

The forces of which these ratios are an expression are skeleton forces. They provide two things: (1) A certain amount of "first-line" fire suppression, and (2) a nucleus of trained men around which to organize fire-fighting crews.

In practice a member of the protective force reaches a fire quickly, (often alone), and if possible controls it. This is "first-line". However, if the fire has grown to unmanageable proportions by the time he reaches it, the fireman obtains help - first from local people, chiefly loggers and ranchers, later from more and more remote sources of labor. An extremely large fire may require transporting labor, supplies, equipment and overhead several hundred miles.

Two characteristics of this fire organization are worth noting: (1) The comparatively weak "professional" force in the first line, and (2) the necessity to muster large forces of "pick-up" labor at short notice whenever an emergency arises.

The organization has been strengthened materially by developing what may be called a "second-line". This consists of local cooperators with whom arrangements are made in advance. They may be logging crews, ranchers, residents or work crews. Through the advance arrangements they have equipment, are trained to some extent, and are available for fire fighting at short notice. Sometimes they are "first-line" but generally they come in a little later and support the "first-line". This "second-line" has demonstrated its worth time and again.

The organization was strengthened further when the CCC was established and put sizeable labor forces at nearly full disposal of fire fighting. Through training, carefully planned disposition of equipment, and a growing road system, the CCC boys became a first and second-line force acting rapidly in strength and gave a foretaste of what a strong first-line could do.

Even with these improvements, however, the two characteristics given above remained. Moreover, since war began CCC ranks have thinned and become nearly unavailable for forest work; numerous experienced short-term men have found jobs in war industry; and the sources of "pick-up" labor become less and less reliable. The cooperators remain, but "second-line" has its own place. Usually it cannot act quickly enough to replace "first-line" nor in sufficient strength to replace the "pick-ups" in a big emergency.

In 1941 when these conditions became serious, emergency appropriations made it possible to expand the "first-line" forces by hiring small crews and putting them in strategic locations. These crews were highly trained, well equipped, in excellent physical condition, and developed a high degree of truly professional spirit. Aside from an experimental crew or two they were the first really professional fire-fighters ever available in force for first-line suppression, and although various details remain to be worked out, the year produced much valuable experience and confirmed much that had hitherto been mainly theoretical.

The hope of fire-fighting organizations is always to establish control with the first-line force. Whenever this can be done the problems connected with pick-up labor do not arise; moreover since suppression forces must increase geometrically with the fire spread, the enormous cost of fighting big conflagrations is not incurred, and fire damage is held to a minimum. It has always been believed, therefore, that if the fire organization had fully adequate first-line forces, the total cost of forest fires could be materially reduced even though the first-line forces themselves cost considerably more than formerly. General conformation of this came in 1941, and as 1941 conditions will be aggravated in 1942, plans have been made for using the larger first-line forces again with either deficiency or emergency appropriations, and the information now available indicates that the system should be made permanent.

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The hope of fire-fighting organizations is always to establish control with the first-line force. Whenever this can be done the problems connected with pick-up labor do not arise; moreover since suppression forces must increase geometrically when the fire spreads, the enormous cost of fighting big conflagrations is not incurred, and fire damage is held to a minimum. If one had fully adequate first-line forces, the total cost of forest fires could be materially reduced even though the first-line [illegible] conformation of this cost in 1941, and as 1942 conditions will be aggravated in 1943, plans have been made for using the larger [illegible] appropriations, and the information now available indicates that the system should be made permanent.

In Linn County the plans require a little more than twice the manpower formerly used for first-line, with an average of 12 men per 100,000 acres. Actually, the State and private lands need more forces than national forest because they are lower, dryer, contain more slash and fewer barrens, so that the indications are for 11 men per 100,000 acres on national forest and 13 men per 100,000 acres on other ownerships. The total short-term positions come to 120. This is justifiable, recurrent periodic (seasonal) work, and it is a minimum. It will not guard against material increases in slash or provide for more intensive administration, although it will provide a modicum of incidental maintenance for improvements.

Recurrent Employment in Maintenance of Improvements:

The physical improvements by which a forest is developed and made accessible for purposes of protection, management, and utilization consist of roads, trails, telephone lines, camp and picnic grounds, water developments, stream improvements, fences, buildings of various kinds, erosion controls, shelters, corrals, measuring devices (weather stations, stream guages, traffic counters, fire finders), and the like. The actual construction or installation of such improvements is a principal source of non-recurrent employment, and will be discussed later, but once the improvements are actually installed they require maintenance and care and become a source of recurrent employment.

Several types of maintenance, e.g., painting buildings, recur periodically rather than annually, and in cases where the periods are rather long such maintenance could perhaps be classified as non-recurrent work. This, however, is merely a matter of definition, and for present purposes all maintenance is regarded as recurrent.

Maintenance is distinguished from reconstruction or "betterment" by the fact that maintenance does not affect the identity of the object maintained, whereas reconstruction produces an object which is new and different in some essential feature. Hence, reconstruction is usually undertaken on a project basis, occurs at indefinite and irregular intervals, and is regarded here as non-recurrent work.

TABLE 6

AVAILABLE FOREST WORK - LINN COUNTY
Recurrent Work - Maintenance

Class of Improvement	(1) Man Days per 100,000 Acres per Yr (Nat'l Forest)	Total Man Days of Work (2) On Nat'l Forest	(3) On Other Ownership	Tota
Fire Control	20	95	90	185
Timber Management	5	25	—	25
Wildlife	5	25	—	25
Recreation	70	335	—	335
Range	—	—	—	—
Administrative	65	310	—	310
Transportation System	480	2305	2210	4515
Communication System	75	335	320	655
Total	715	3430	2620	6050

(1) Data from Willamette National Forest.
(2) Data from (1) extended to Nat'l Forest land on area basis.
(3) Data from (1) extended to other ownerships on area basis; blanks in column are due to assumption there is no maintenance work of the character indicated on these ownerships at present.

The volumes of forest work given in table 6 may be defined as the amounts necessary to keep the existing physical improvements in good working order. They originate entirely in the physical improvements in actual existence and therefore are unlikely to remain constant. Instead, they will increase because the physical plant will be enlarged, and this enlargement will produce additional needs for maintenance. The work volumes in table 6 may therefore be regarded as irreducible minima. On one hand, if the work is not done damage will result to existing physical improvements, while on the other, it is altogether probable that additional maintenance will be necessitated by additional improvements.

A characteristic of much of the maintenance work shown in table 6 is that it must be done during certain periods of each year. This is especially true of maintenance for roads, trails and telephone lines, which comprises 85 per cent of the work indicated.

Work of this kind cannot accumulate from year to year and be made available for unemployment relief. On the contrary, if it is postponed the improvements deteriorate, finally become useless, and the work disappears.

About 90 per cent of the work given in table 6 would ordinarily be done in spring, summer and fall. A large proportion is done in spring to put roads, trails and telephone lines in working order for the oncoming fire and recreation seasons. Maintenance tapers off in midsummer and again in winter. Considered as a single activity it cannot be spread uniformly over the year.

Non-recurrent Employment:

Much forest work is done on a project or job basis either because it does not recur after being finished or because budget and fiscal requirements make that the most convenient way. Examples of work that is often done on this basis are: (1) Construction; e.g., buildings, roads, telephone lines, recreation developments, check dams, contour ditches, fences; (2) cultural operations; e.g., planting, seeding, pruning, thinning; (3) improvement operations; e.g., relocation, reconstruction, realignment, hazard reduction, and control of insects, disease, and rodents.

Most of these types of work result from capital investment and create needs for maintenance - a source of employment which occurs either annually or periodically.

A main difference between yearly seasonal work (recurrent) and non-recurrent work is that the former cannot be picked up or laid down practically at will. It must be done periodically at a certain time and place or the chance to do it disappears. It cannot accumulate during a busy period or a time of low funds and be done later. Non-recurrent work, however, can be put off, permitted to accumulate, and once undertaken can within reason be terminated when desired. It is true that allowing some work to pile up is unsound practice and that some non-recurrent work, e.g., control of insect epidemics, is emergent, but this does not eliminate the general difference between the two types of work, and the difference is fundamental. Because of it, much non-recurrent work can be accumulated and become a source of employment during depressions.

As properties, the forests of Linn County are similar to a tract of fertile but uncleared farm land in that their full potentialities cannot be realized until some development and improvement takes place. Except for limited improvements that have been made to facilitate administration and protection, Linn County's forests are much as nature produced them -- raw, difficult of access, out of balance in respect of growing stock, replete with dangerous fire hazards, and in short, unfit for the flexible continuous management that would bring them to a high pitch of permanent productivity and minimize losses caused by fire, pests, and inaccessibility.

The work required to put these forest areas in shape for fairly intensive management and use, also to eliminate various existing deficiencies in the condition of growing stock, in the habitats of wildlife and in fire hazards is given in table 7.

TABLE 7

Available Forest Work - Linn County

Non-recurrent Work

Activity or Class of Work	Total Man Days fo All Ownerships
Fire Control Improvements	200,900
Timber Management	818,300
Wildlife Management Improvements	13,500
Recreation Improvements	60,000
Range Improvements	2,500
Administrative Developments	25,200
Misc. Surveys & Maps	25,200
Transportation System	510,500
Communication System	25,200
Total	1,681,300

Table 7 covers direct work only and contains no indication of indirect employment either in service industries, in provision of housing, or that which would result from the necessary purchases of machinery, tools, instruments and materials. Also the term "man day" means a day of eight hours on the job by a proficient industrious workman.

The amounts of work given in table 7 are temporarily unprovable in several categories either because precise inventories are not available or because, as in the case of recreation improvement, the estimates have involved judgments of population growth or other futures. However, within the limits of its accuracy, the amount of work in table 7 will provide a basic network of permanent utilization and general purpose roads, an adequate communication system and enough buildings, surveys and maps. It will improve the main streams as habitats for game fish, provide holding ponds, lake surveys and the beginnings of game management. It will thin and prune all the second growth that requires these operations, reforest depleted areas, reduce or isolate the snag patches and, as well as can be foreseen, provide improvements for public recreation sufficient to meet the needs until about 1960.

This much work is about equivalent to what 20 full strength CCC companies could accomplish in ten years, using normal amounts of machines and equipment, although the work need not be done by CCC, and it need not be done in ten years. Other types of work organization would be satisfactory and six or twelve or twenty years or any other reasonable period could be adopted, provided it was kept in mind that if the work was not done fairly soon, part e.g., some thinning and pruning, would disappear, and elimination of certain deficiencies would not occur in time to be beneficial. During whatever period was adopted the need for recurrent maintenance would build up behind construction, thereby increasing the quantities given in table 6. The rate at which this would occur would depend upon how rapidly maintenance-requiring improvements were installed.

The nature of the improvements which the work in table 7 would make is such that it is impossible to foresee what would occur after they were installed. Since the work would put the whole forest area in condition for a type of management which if judged by present day practices would appear fully satisfactory to some and visionary to others, it might be believed that completion of a work program of the dimensions given would develop the area as much as necessary and by thus terminating capital investment reduce the opportunities for employment. Commonly, a given series of developments for production reaches a point where more cannot be used. At this point the series goes on a maintenance basis and the large amount of employment furnished by capital investment reduces to the smaller amount supportable by maintenance.

The question in Linn County is whether the work shown in table 7 would exhaust the need for development and so reduce the employment to whatever maintenance would support. This question cannot receive a certain answer simply because it is impossible to predict the future. It is true that a series of capital investments culminates and subsides, but it is also true that another series becomes necessary. There is no real end to this and no real end to so-called non-recurrent work even though defects in the general economy prevent undertaking it and prevent realizing its possibilities for employment. Thus it is impossible to predict whether employment in Linn County's forest area would decline when the work given in table 7 has been finished or whether it would increase. Doing the work at all presupposes changes in public policy in conditions of employment and ownership, in markets, in population shifts and the like which, in themselves, might necessitate an increased scale of employment and in any case make it impossible to settle on an employment base that can be projected with assurance very far into the future. However, it can be said that the amount of work that Linn County's forests could furnish will not increase indefinitely because a forest could be over-developed, over-managed, and over-manned the same as a farm. An indication of the practical limits of employment may be obtained perhaps from German forests which "have been managed on a sustained yield basis and constituted a

work is about equivalent to what 20 full strength CCC companies could accomplish in ten years, using normal amounts of machines and equipment, although the work need not be done by CCC, and it need not be done in ten years. Other types of work organization would be satisfactory and six or twelve or twenty years or any other reasonable period could be adopted, provided it was kept in mind that if the work was not done fairly soon, part e.g., some thinning and pruning, would disappear, and elimination of certain deficiencies would not occur in time to be beneficial. During whatever period was adopted the good for recurrent maintenance would build up behind nonmaintenance, thereby increasing the quantities given in table 6. The rate at which this would occur would depend upon how rapidly maintenance-requiring improvements were installed.

The nature of the improvements which the work in table 7 would make is such that it is impossible to foresee what would occur after they were installed. Since the work would put the whole forest area in condition for a type of management which is judged by present day practices would appear fully satisfactory to some and revolutionary to others, it might be believed that completion of a work program of the dimensions given would revolutionize the use as much as necessary and by time tomorrow capital investment would reduce the coordinating for employment. Generally, a given series of improvements for production reaches a point where more cannot be used. At this point the series goes on a by capital investment reduces to the smaller amount supportable

major source of livelihood for permanent communities for many generations".*

The average employment in the State Forests of Prussia for the period 1926-34 was 1.61 days per year per acre of timbered area. In the State Forest of Bavaria (1924-33) employment was 1.89 days per annum per acre of timbered area. In Wurttemberg (1925-32) the figure was 2.81, and in Brunswick (1928-33), it was 1.62. In presenting these data, Sparhawk states that hand work is prevalent in practically all phases of German forestry operations, and in view of this it is possible that the German employment figures represent maxima which American forests will be unable to surpass.

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* The quotes and all subsequent data on German forests are from "Forests and Employment in Germany", W. N. Sparhawk, U.S.D.A. Circular 471, July, 1938.

Table 8, a summary, has been constructed by making various assumptions which reduce the various unlike elements of employment to fairly common terms. The assumptions given in the footnotes to the table are crude, but cannot be much improved because the necessary information is not available, but as long as they are stated it seems permissible to make them in order to provide a few comparisons. Also, table 8, even disregarding inaccuracies in some of its categories is emphatically not a preview of what anyone supposes is going to happen in Linn County. It is simply a representation of what would be possible there under certain conditions, among which are the following:

1. Sustained yield management of the entire timber resource, including Federal, private and other ownerships. In theory perhaps this management would have begun in 1934, the year in which the Forest Resource Survey data were issued, but practically there has not been a cumulative overcut since then and the full cut could have started any time. The first single year's overcut appeared in 1940 (323 million).

   A minimum requirement would be ownership policies sufficiently uniform to permit not only sustained yield itself but also integrating timber management in the North and South Santiam working circles.

2. Local conversion of all logs. Forty-one per cent of the work indicated for the ten-year period is derived from conversion and as this is detached from the log source, any part of it or all could be removed from Linn County by shipping logs outside.

3. The entire forest area would be under permanent multiple purpose administration and provided with first-line protection forces at least equal to those being provided during the war emergency. Attention of the administration would not be confined to timber. It would also recognize other forest resources like recreation, range and wildfire, and be able to give them reasonable development and care.

4. The entire area would be permanently developed, especially with a permeating road system, so that selective management of the entire timber stand and of other resources too, if necessary, would be feasible.

Under these conditions all except the non-recurrent work would result in employment that would be stable insofar as stability can be guaranteed by the permanency of the supporting resource. The volume of non-recurrent might decline a little but is more likely to increase. Of the total amount, about 59 per cent, comprising all elements except conversion, is physically inseparable from the forest and the soil and cannot be done elsewhere than in Linn County. Speaking in general, this 59 per cent would be devoted to the growth, care and harvest of the various

Table 32 (or Table 8)*

Capacities for Yearly Direct Forest Employment - Linn County, Oregon

All Classes of Work (a)

Class of Work	Equivalent Number of Employees Required on Yearly Basis - 250 Days per Year	Average No. Employees per 100,000 Acres (2)	Average Number Man Days per 100,000 Acres Gross Acres (3)	1 Man Year - 250 Days: National Forest Land (4)	1 Man Year - 250 Days: Other Ownership (5)	Total Amount (6)	Total % (7)
Harvest	990	105	26,275	89,000	158,000	247,000	33
Conversion	1,235	131	32,845	111,250	197,500	308,750	41
Administration, Management, Protection	30	3	800	3,750 (d)	3,750 (d)	7,500	1
Recurrent, Protective, Administrative	55 (120) (c)	12	1,530 (b)	7,350 (b)	7,050 (b)	14,400 (b)	2
Recurrent, Maintenance	25 (50) (c)	6 (b)	715	3,430	2,620	6,050	1
Non-Recurrent (a)	672 (1400) (c)	149 (b)	17,900	84,065 (d)	84,065 (d)	168,130	22
Total	3,007	406	80,065	298,845	452,985	751,830	100

(a) The non-recurrent work in table 7 is arbitrarily assigned to a ten-year period.
(b) Calculated for an employment period of 120 work days per year.
(c) Figures in parenthesis are numbers of employees required for a season of 120 work days per year.
(d) Half the total is arbitrarily assigned to each major ownership group.

* Table 8 used as reference in Appendix 1.

forest crops. In make-up, it is nearly but not precisely comparable to the employment in German forests for which figures were quoted above.

The work in care and harvest would employ the equivalent of about 1,772 year-long workers, of whom 990 (56%) would be engaged in harvest and 782 (44%) in development, in maintenance and in protective and cultural work. Harvest would yield about .38 man days employment per year per acre of commercial timber land, the other work about .30 man days per acre per year. The total, .68 man days per acre is much less than the employment furnished by the German state forests, but a word of caution is needed against regarding employment as indicative of relative accomplishment because of the extensive use of machinery in American forests.

HEALTH AND MEDICAL CARE PROGRAM AS PART OF POST-WAR PLAN FOR LINN COUNTY

The objectives of this program are:

(1) To provide complete medical and dental care for every individual residing in Linn County.

(2) To inaugurate a public health program embracing all the principles of preventive medicine, sanitation, and public health education.

(3) To completely correlate the preventive medicine or health program with the remedial program in such a way that the two above objectives will work as one in attaining the goal.

Such a program could be supervised by a Director, and all departmental heads could be responsible to him. It is contemplated that there would be two main divisions in the program; namely, the Health Department and the Medical and Dental Service Department.

I. Health Department

The Health Department could be made up of the following:

A. Public Health Director

B. Assistant Public Health Director, who would in turn closely supervise the Engineering Department.

C. Engineering Department

1. Qualified Sanitary Engineer

2. 3 Sanitarians

3. 1 Milk Sanitarian

D. Nursing Division

1. Nursing Superintendent

2. 20 Public Health Nurses

E. 4 Clerks

II. Medical and Dental Service Section

The Medical and Dental Service Section could be made up of a Medical Director, who would not only be responsible to the Director of the entire program, but also to a Medical Advisory Board made up of doctors chosen from the

The objectives of [illegible] are:

(1) To provide complete medical and dental care for every [illegible] in the [illegible].

(2) To inaugurate a public health program emphasizing all the principles of preventive medicine, education, and [illegible].

(3) To completely correlate the preventive medicine and health program with the remedial program in such a way that the two phases of health work will work as one in attaining the goal.

Such a program could be supervised by a Director, and all [illegible] would be responsible to him. It is contemplated that there would be two main divisions in the [illegible] namely, the Health Department, and the Medical and Dental Service.

2. Health Department

The Health Department would be made up of the following:

A. [illegible]

1. Assistant Public Health Director, who would be [illegible]

B. Engineering Department

1. Qualified Sanitary Engineer

2. 3 Sanitarians

3. 1 [illegible]

C. [illegible]

1. Nursing Supervisor

2. 20 Public Health Nurses

D. [illegible]

3. Medical and Dental Service Section

The Medical and Dental Service Section would be headed by a Medical Director, who would not only be responsible to the Director of the [illegible] program, but also to a Medical Advisory Board made up of doctors [illegible]

general staff. It is contemplated that it would be necessary to have 50 physicians, plus 15 specialists, including pediatricians, gynecologists, opthalmologists, ear, nose and throat specialists, urologists and dermatologists.

A. Clinics

The medical care program could be operated on a clinic basis throughout the county. The personnel of each clinic would be the following: a pediatrician, a general practitioneer, a gynecologist, and dentist, with two clinic nurses.

This might be the basic unit. Each unit would be designed to take care of a population of 1500. In certain areas it might be necessary to have more than one unit. In other words, with a population of 3,000 people, it would be necessary to combine two units in one clinic.

B. Health Center

The health center might be comprised of a hospital, out-patient clinic, and laboratory. The laboratory would serve not only the hospital but also the Health Department. This center should be located at Lebanon and would be considered as the medical center for the entire county. All surgery and hospital cases would be taken care of at this center by a specially trained staff of physicians, surgeons and specialists. Since there are also medical centers at both Salem and Corvallis, it might be necessary occasionally to call in consultants from those centers. This could be done on a fee basis and a special item be set up in the budget for payment of such fees. There should also be in connection with the health center an ambulance service which would bring the patients to the health center from the different district clinic offices and other sections of the county.

Attached to this proposed plan is a schematic diagram showing the three different divisions and the lines of authority. The 20 nurses in the Health Department could each be assigned to a district corresponding to the district clinics, and she would be in charge of the clinic nurses serving the district clinics. The Public Health Director and Medical Director would correlate their work so that a complete integration of all activities would be centered about the health center at Lebanon.

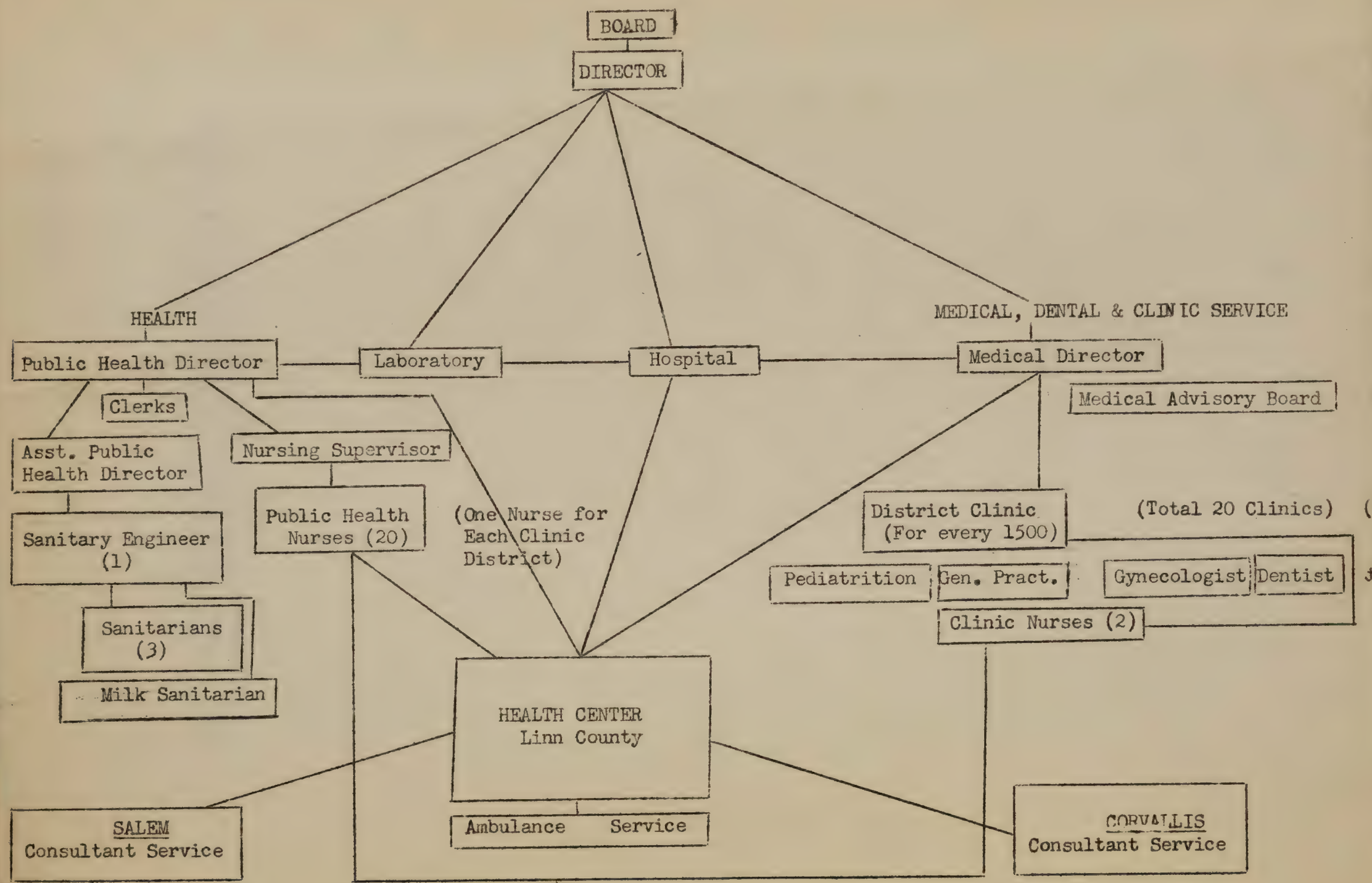
BUDGET

Director	$10,000	
Health Department		
Public Health Director	6,000	
Assistant Public Health Director	4,600	
Sanitary Engineer	3,600	
Sanitarians - 3 @ 2000	6,000	
Milk Sanitarian	2,400	
Nursing Supervisor	2,400	
Public Health Nurses - 20 @ 1800	36,000	
Clerks - 4	6,200	
Travel	24,000	
Total Health Department		101,200
Medical and Dental Clinic Service		
Medical Director	$ 6,000	
Doctors - 65 Average @ 5000	325,000	
Dentists - 20 Average @ 3600	72,000	
Clinic Nurses - 40 Average @ 1600	64,000	
Health Center		
Hospital, Laboratory & Out-Patient Department	275,000	
Ambulance Service	12,000	
Travel	24,000	
Total Medical and Dental Clinic Service		778,000

Public Health Program (Tax Supported) Average $3.00 per person
Medical and Dental Clinic Service - Average $25.00 per person

Building Costs:

Initial Cost of Hospital (180 Beds) - Estimated	720,000
Average cost of Buildings and Equipment per Clinic Unit at $10,000 - Total of 20 Units - - -	200,000
TOTAL	$1,799,200


BOARD
DIRECTOR
HEALTH
Public Health Director
Clerks
Asst. Public Health Director
Sanitary Engineer (1)
Sanitarians (3)
Milk Sanitarian
Nursing Supervisor
Public Health Nurses (20)
(One Nurse for Each Clinic District)
Laboratory
Hospital
MEDICAL, DENTAL & CLINIC SERVICE
Medical Director
Medical Advisory Board
District Clinic (For every 1500)
(Total 20 Clinics)
Pediatrition
Gen. Pract.
Gynecologist
Dentist
Clinic Nurses (2)
HEALTH CENTER Linn County
Ambulance Service
SALEM Consultant Service
CORVALLIS Consultant Service

Appendix 3

Report by La Follette Senate Committee on Education and Labor on "Employer's Association and Collective Bargaining in California". (To be included in final draft.)